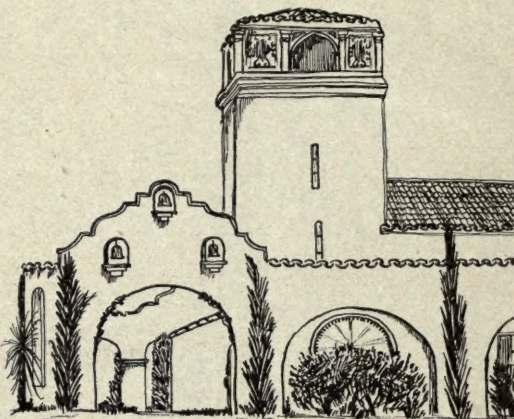


Presented in honor of
William R. Laughlin, D. O.
by
Mrs. William R. Laughlin



COLLEGE OF OSTEOPATHIC PHYSICIANS
AND SURGEONS • LOS ANGELES, CALIFORNIA



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Diseases of Women

A MANUAL OF GYNECOLOGY DESIGNED FOR THE
USE OF OSTEOPATHIC STUDENTS AND
PRACTITIONERS

BY

Monotype
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SECOND EDITION.

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PREFACE TO SECOND EDITION.

The very gratifying reception accorded to the first edition of this work has prompted me to make the second edition still more acceptable to the profession.

I have rewritten a great deal of the subject matter and the other subjects have been much enlarged. In addition many new sections and interpolations have been added.

Much attention has been paid to the causes and treatment of female diseases from the bony lesion standpoint. Surgical gynecology has been purposely left out.

The most of the illustrations are original, while the proper credit is given for those copied.

M. E. CLARK, D. O.

Kirksville, Mo., September, 1904.

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INTRODUCTION.

GYNECOLOGY is the **science** which treats of the diseases **PECULIAR TO WOMEN**. Since woman possesses organs which man has not, and as the role she plays, both physiological and social, differs from that played by man, we would expect to find her afflicted with a **NUMBER OF DISEASES** peculiar to herself, which depend on her make-up, function and habits. As far back as history carries us we find mentioned certain diseases peculiar to women. Instruments have been found, such as sounds and various forms of specula, which indicate that uterine diseases were recognized and that attempts were made to correct them even at that early date.

Prior to the time of Sims, the practice of gynecology consisted, for the most part, in replacing the malposed uterus, adjusting pessaries, and the application of various medicinal agents to the cervix and uterine canal. Within the last decade gynecology has developed into a science distinctly surgical, when viewed from the standpoint of an abdominal surgeon or the so-called specialist. **ALL CHRONIC CONDITIONS** ARE looked upon as surgical, and such operations as curettage, ovariectomy or some form of laparotomy is performed for the most trivial ailments, while in some, the operation is performed as an experiment or for the purpose of diagnosis. **SHORTENING** of the uterine ligaments and operations on the vagina and pelvic floor, such as colporrhaphy and perineorrhaphy, are the operations that are most frequently performed.

During this period Dr. A. T. Still, noting the prevalence of

and tendency to, surgical operations, reasoned that "A WOMAN WAS NOT MADE TO BE MAIMED BY USELESS SURGICAL EXPERIMENTS." He began to study the human body, its mechanism, parts, and functions of all these parts, but particularly the pelvic viscera. As a result of this study, a new system of therapeutics in general was evolved, which he called **osteopathy**; while a new system of gynecology in particular, was given to the world, marking the beginning of an epoch, for the relief and cure of female diseases, greater than any previous one marked by any new mode of treatment.

The **basic principle** of osteopathy in general, and osteopathic gynecology in particular is, that A PERFECTLY ADJUSTED BODY IS NECESSARY TO HEALTH; AND THAT A PERFECT ADJUSTMENT OF THE PARTS CONCERNED IN THE FORMATION OF THE FEMALE SEXUAL APPARATUS, IS NECESSARY TO THEIR PERFECT FUNCTIONING; this perfect adjustment existing, HEALTH PREVAILS.

NERVE FORCE must be DISTRIBUTED TO EVERY PART OF THE HUMAN BODY. The BLOOD must be kept in MOTION ALL THE TIME, not lagging for an instant, or its vitality lowers and a predisposition to disease follows.

Dr. Still reasoned that a DERANGEMENT OF THE FRAMEWORK of the body affected the structure and function of the viscera directly or indirectly in relation with the deranged part; these effects interfering with normal nerve supply to, and circulation through, these structures and viscera. These derangements of the framework consist of partial or complete dislocation of vertebrae, especially the lumbar, and of the sacrum, coccyx, innominata, ribs and hip bones. Visceral lesions, such as displacements of the intestines, and the uterus with its attachments and appendages, are recognized as important causes of interference with distribution of blood and nerve force.

These theories have been put into practice by osteopathic physicians and proven beyond successful contradiction, thus marking a **new era** in gynecological therapeutics.

Formerly, strange theories were advanced as to the causes of female diseases. Some found the explanation of all uterine diseases in congestion, others in displacements; one declared "leucorrhea to be the great evil;" another, ulcerations and granulations. Most of the modern teachers are inclined to trace them to inflammation. Necessarily as a result of these varied ideas, exclusive therapeutists developed. Congestion was treated by blood letting, displacements by various mechanical devices, while others directed all their attention to the curing of the leucorrhea.

On account of **IGNORANCE OF THE FUNCTION OF THE FEMALE GENITAL ORGANS** and their relation to disease, I think they have been **MALTREATED** more than any other part of the body. One extreme has followed another; experiment after experiment has been performed, and the latest fad or experiment is operation. If the patient has painful menstruation or a chronic abdominal pain, an operation is at once advised. I am glad to say that the osteopath does not have to resort to such for relief in the vast majority of cases, but relieves the sufferer without unsexing her by an operation. Thus from an uncertain experimental condition, **OSTEOPATHY** steps forth a certain and perfect science. I sincerely believe that the science of osteopathy is the only rational and natural way of treating ailments peculiar to women.

THE OSTEOPATH views these diseases from an entirely different and new standpoint; at least the method of correcting them is new. While some of the causes usually mentioned are recognized, other causes **MORE POTENT**, which belong to the **REALM OF OSTEOPATHY**, are regarded as the most important,

and by removing these, permanent cures result. The osteopathic idea depends on PROPER ADJUSTMENT of both the internal organs of generation and the bony framework in which they are located. Any displacement of either one tends to interfere with the normal distribution of blood and nerve force, both of which are requisite to perfect health. **Pure blood is moving blood, and it cannot be pure and be stagnant at the same time.** If the blood is circulating properly, HEALTH MUST ENSUE; that is, our object in treating these diseases is to relieve obstructions both mechanical and vaso-motor, to the proper circulation of the blood.

The **mechanical** obstructions come from visceral displacements; the **vaso-motor** disturbance, from some mal-adjustment of structures in relation with, origin of, or along course of the nerves, either cerebro-spinal or sympathetic, supplying the uterus. Bony lesions, muscular contractures or relaxation, and abnormal conditions of the ligaments, produce most of the vaso-motor disturbances.

LACK OF CARE on the part of the patient, such as **exposure** during menstruation, and **overwork**, both physical and mental, at the TIME OF PUBERTY, are common exciting causes of female diseases. At the menstrual period there are vascular and nervous changes taking place which, if interfered with, will be the cause of various chronic uterine troubles. During puberty, the development of the uterus and its appendages takes place, and if the nerve force that should be used for their development is directed into other channels, by mental or physical over-work, the pelvic organs suffer.

PHYSIOLOGY. The proper performance of the function of the parts is necessary to health, and any condition perverting the normal functioning would result in disease. In this class

are included the barren, and especially those who deliberately prevent or destroy the products of conception. The **FUNCTION** of these organs is **REPRODUCTION**, and if the function is not performed there will be a disturbance of the health of the organs; for instance, fibroid tumors are usually found in nullipara above the age of thirty; again, those who **DELIBERATELY** prevent conception by the various artificial means, interfere with nature and impair the whole nervous system. Nature will not stand tampering with without rebelling, and there is a penalty for every infringement. The least interference with her laws results in disorders which vary with the amount of interference.

IN THE TREATMENT of diseases peculiar to women, the perverted physiology is relieved in two ways; first, proper care on the part of the patient; second, correction of anatomical derangements. If the bony framework is properly adjusted health will follow in most cases.

The **bony lesion is usually primary**, sometimes secondary. Abuse of function will result in anatomical changes. By the treatment and correction of these anatomical derangements, which is hard to do in some cases, some good effect on the viscus that is diseased or abused can be obtained. For example, ovarian colic will produce contracture of muscles in the back. By overcoming this contracture by inhibition, which is not possible in many cases, the pain can be relieved. The trouble is, in such cases, the effect not the cause is treated, and on this account little can be done with such contractures, and that only temporarily.

The **ANATOMY** of the organs themselves; the neighboring structures and tissues; the nerve supply to and from the organ; the blood supply and lymphatic circulation are considered. To the osteopath the bony framework in which the pelvic viscera

are located, is the most important; and on this account special attention should be given to the lesions affecting the sacrum, iliac bones, lumbar vertebrae and the coccyx. In addition, uterine displacements should be corrected, since obstruction to nerve force, congestion, or even inflammation results from them, which things cause varied and complex troubles; contracted muscles relaxed, whether the result of thermic influence or of a bony lesion; and **lesions** affecting nerve centers of the uterus are adjusted, since such impair their function. The NERVE CENTERS need very little artificial stimulation if their connection with the brain and uterus is not interrupted, since the body is a SELF-RUNNING MACHINE. The rules of hygiene and dietetics should be followed in these as well as in other diseases; that is, advise the patient to take plenty of outdoor exercise and permit her to eat anything that agrees with her, but caution her against excesses along this line.

DEVELOPMENT OF THE FEMALE GENITAL ORGANS.

SOME KNOWLEDGE of the origin and development of the female genital organs is necessary to a proper understanding of the conditions in which they have failed to attain the normal; as in errors of development such as are exemplified in uterus bicornis, infantile ovary or uterus and atresia of some parts of the genital tract.

THE DATE of first appearance of the genital organs is about the sixth week. The first organs to appear are the Wolffian ducts, one on each side of the body. Originally they are solid cords but afterward become hollowed out so as to form tubes. Shortly after the Wolffian ducts have begun to develop, the Wolffian bodies appear. From the external surface of each Wolffian body a structure develops, known as the genital gland, which subsequently becomes either a testicle or an ovary. The two sexes cannot be differentiated before the eighth week. At about the tenth week the external genital organs show a change making it possible to differentiate between the sexes. In the male, commencing at that time, the slight prominence which marked the site of the external organs enlarges quite rapidly. In the female, the upper end of the Wolffian body is attached to the diaphragm, the lower, to the inguinal region by a ligament, which ultimately becomes the round ligament of the uterus. This is of interest because it shows that the round ligaments are not in reality ligaments, but consist of tissue almost identical with that forming the uterus. From the Wolffian body is also developed the organ of Rosenmuller or the parovarium.

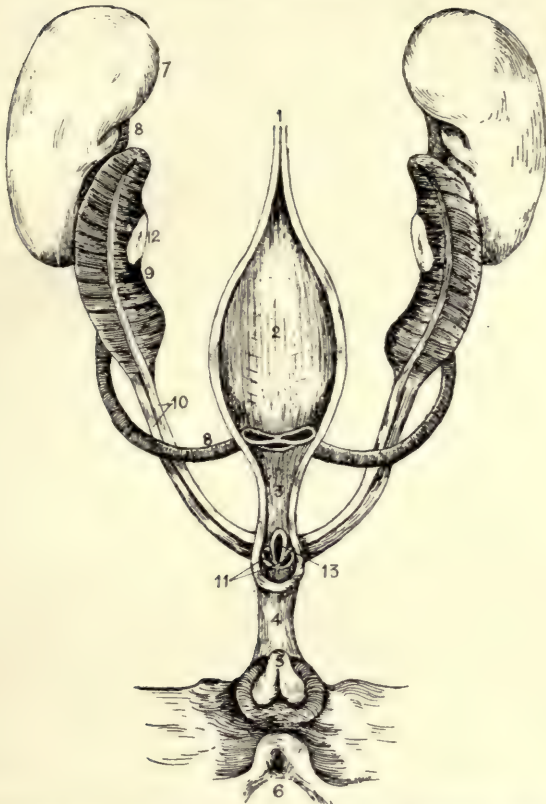


FIG. 1.—Development of the genito-urinary system. 1, 2, bladder; 3, clitoris; 4, sinus uro-genitalis; 5, Muller's ducts; 6, 14, Wolfian bodies; 7, 11, Wolfian ducts; 8, ovaries; 9, ends of Wolfian ducts; 10, opening of ducts into the sinus uro-genitalis; 12, urethra; 13, urachus.

OVARIES. The point to be considered in the development of the ovary, is its descent. Originally, the ovary is developed in connection with the kidneys, and as it increases in size it descends, and on this account the blood vessels and nerve fibers supplying it are lengthened. In case of ovarian diseases then, we would expect the lesion to be in the lower dorsal region. The ovary undergoes great changes in shape; at first it is an elon-

gated FLATTENED body, but later it changes its shape so that a transverse section has the appearance of a BEAN, and finally it becomes ALMOND SHAPED.

In the early stages the ovary is represented by a mass of cells developed from the peritoneal covering of the Wolffian body, but soon a protuberance of connective tissue enters from behind into this cell mass. From this we find that the elements entering into the structure of the ovary are the cells which form the parenchyma or glandular element, and the connective tissue or stroma. From this cell mass the ova are developed. Their number is enormous, it having been estimated that the two ovaries together contain above seventy-two thousand.

THE MULLERIAN DUCTS. Shortly after the appearance of the Wolffian bodies, there appears about the twelfth week, a funnel-shaped invagination from the endothelium of the peritoneum at the inner side of the Wolffian bodies, which develops into the Mullerian ducts, and is fastened to these bodies by a mesentery. After the bodies disappear, this invaginated portion becomes attached to the posterior abdominal wall and finally, in the fully developed body, it forms a part of the broad ligaments of the uterus.

From that part of the Mullerian ducts which lies above the insertion of the round ligaments of the uterus, are formed the FALLOPIAN tubes; from that part below, together with the lower end of the Wolffian duct, the genital cord or UTERUS. The tissue that separates these ducts is absorbed and the septum disappears in the lower two-thirds, thus forming the cavity of the uterus. The insertion of the round ligament indicates the point of division between the tube and the uterus. The fifteenth week witnesses the fusion of the uterine horns and the formation of the cervix, enlargement of the perineum and development of the

Fig. 2—Müller's ducts, showing manner of union.



vagina. Sometimes these Mullerian ducts fail to coalesce, that is, the partition is not absorbed, and from this arises the condition of uterus bicornis or uterus bifida. In the new born child

the cervix is nearly twice as long as the body of the uterus



FIG. 3.—Uterus bicornis

and its walls very much thicker. Sometimes this condition exists after puberty and the name “infantile uterus” has been applied to such condition. If on local examination of a woman above the age of puberty the cervix is very small, it is a diseased condition dependent upon error in development, or a lesion resulting from an accident at puberty which affected the nutrition center for the uterus.

During the first ten or twelve years of a child's life the uterus is physiologically dormant; but at the approach of menstruation the organ undergoes great vascular changes with a marked increase in size, which continues until the rest of the body has attained its limit of growth. In Fig. 4 the female external organs of generation of an adult are shown.

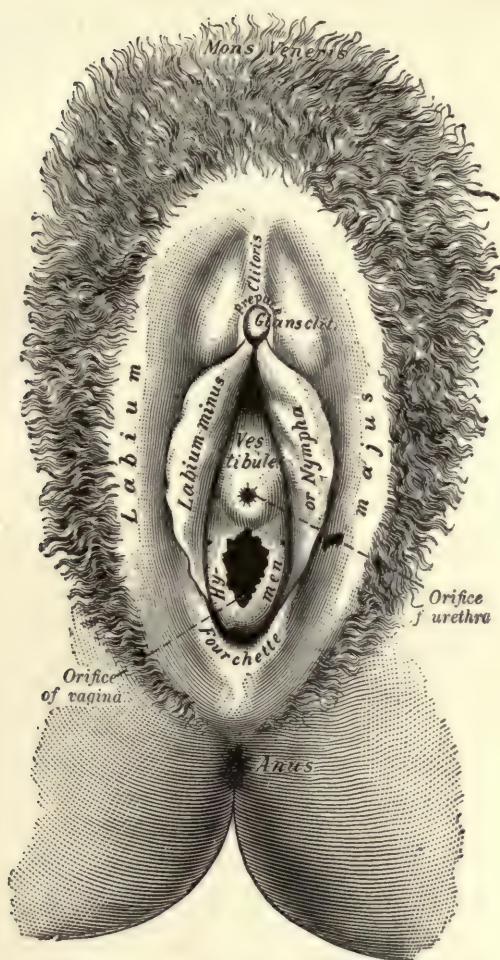


FIG. 4.—The vulva, the external female organs of generation. (Gray.)

THE ANATOMY.

DIVISION OF THE GENITALIA. The genitalia are divided into the external and internal organs. The former with the vagina, form the organs of copulation; the latter, the reproductive organs proper. To the external genitals belong the mons Veneris, the vulva and the vagina; to the internal, the uterus, Fallopian tubes and the ovaries. The vagina is really the connecting link between the external and internal generative organs and belongs to neither, but is usually classed with the external organs.

THE MONS VENERIS is a cushion of fat which covers the pubes. It is covered with short crisp hairs which serve to protect from injuries and perspiration, the more delicate parts which lie posterior to it. In cases of threatened abortion or hemorrhage from the uterus, stimulation produced by a quick jerk of these hairs of the mons Veneris, will usually stop the abortion or hemorrhage by causing contraction of the circular muscle fibers of the cervix. There are numerous nervous fibrils which terminate in the mons Veneris, also a part of the round ligaments. It also contains many sebaceous and sweat glands.

THE LABIA MAJORA. The **labia majora** are two masses of tissue which surround the entrance to the vagina, uniting behind just anterior to the anus in the posterior commissure or **fourchet**, and in front in the mons Veneris; being analagous to the scrotum in the male. They are less prominent after child-bearing, and during old age they often present a **SHRIVELLED** appearance. These folds are covered with short hairs which are continuous with those covering the mons Veneris. Numerous

sebaceous glands are found which secrete a fluid which serves to moisten and lubricate the internal surface.



FIG. 5.—External genitalia of multiparous woman, labia in contact. (Williams).

The inner surface is rose-color and forms a transition from skin to mucous membrane. In the adult nulliparous woman, the lower edges of the labia majora are in contact; cover all the other parts of the vulva and form a line running in an antero-posterior direction, called the RIMA PUDENDI. In a parous woman these lips are slightly separated. The pudendal sac also lies under this covering, and contains erectile fibers.

The CANAL OF NUCK, which is a prolongation of the peritoneum ACCOMPANYING the round ligament, is found under the pudendal sac, which sac is attached to the external inguinal ring. In the aged there sometimes exists a flabby condition of these

greater lips, and separation results, leaving the nymphæ, as well as a part of the vaginal canal, exposed.

The point of union posteriorly, is just anterior to the anus and is very frequently lacerated during the first labor, unless care is used by the accoucheur. On either side the round ligaments are inserted into upper part of lips.

THE LABIA MINORA OR NYMPHÆ. The **labia minora** are two triangular folds of fine skin which lie between the labia majora, becoming much more prominent anteriorly. They are also called nymphæ because they were supposed to direct the



FIG 6—External genitalia of multiparous woman, labia spread apart. (Williams.)

course of the stream of urine. Anteriorly they bifurcate forming two folds; one going above the clitoris and forming its **prepuce**; the other below forming the **frenulum**. Posteriorly

they sometimes extend to the median line, thus forming a complete ring inside; but more commonly they extend but half way back blending with the labia majora. When they extend to the median line they assist in the formation of the fourchet. Sometimes there exists a non-developed condition of these two folds, as a result of which they do not separate or in other cases as a result of inflammation, adhesion occurs, both of which result in a **hooded clitoris**, which condition is a cause of various reflex nervous disorders. "In the Bush-women of South Africa the labia minora become very long and extend in some cases, as far as the knees; this condition being known as the Hot-tentot apron."

In the NEW BORN CHILD, the labia minora extend beyond the labia majora on account of the non-developed condition of the greater lips. The lesser lips in the adult are very copiously supplied with sebaceous and mucous glands, and during sexual excitement, they taking part in the sexual act and being abundantly supplied with sensory nerves, their secretions are markedly increased.

The labia majora contain no fat but here are located LARGE VENOUS plexuses and bulb-shaped terminal nerve organs. In case of masturbation, the lesser lips are very red and irritable. There is often discovered on them a yellowish deposit. They are usually hypertrophied in cases of chronic masturbation while the greater lips are atrophied. Sometimes hystero-epilepsy results from irritation or inflammation of these lips; such being the condition in a case treated by the author in which the least irritation would bring on an attack and in which case they were hypertrophied and hypersensitive.

THE CLITORIS. The **clitoris** is an **erectile organ** which is the homologue of the male organ, the penis, but differs from it in

that it does not possess a corpus spongiosum and is not tunnelled by the urethra. It is composed of two corpora cavernosa and the GLANS CLITORIDIS. It is held in position by a suspensory ligament, attaching it to the lower border of the symphysis pubis. It forms a landmark for the location of the meatus urinarius which is located about one inch posterior to it.

During the non-erectile state, only the glans clitoridis is visible; but during the erectile stage the two crura which unite to form the clitoris proper, can be clearly outlined and have the appearance of an inverted "V." The glans clitoridis contains papillae occupied by arterial tufts, and the special peculiar nerve endings, the GENITAL CORPUSCLES. There is an intimate connection between the CLITORIS AND THE NIPPLES; both being composed of erectile tissue. Stimulation of the nipples will cause contraction of the uterus and erection of the clitoris. The clitoris is the chief seat of voluptuous sensation and in cases in which masturbation has been practiced the glans clitoridis will be found red, irritable and sometimes inflamed.

A recent writer claims that the meatus urinarius instead of the clitoris is the seat of voluptuous sensation. He says, "In the male the orgasm results from the passing of jets of semen over the mucous membrane of the urethral canal; in the female, by jets of mucus from the neck of the bladder through the urethra."

As mentioned above, this organ may be hooded; adhesions may exist; or it may be in a condition of non-development, either of which may seriously interfere with the nerve force of the body. **Stimulation** of this organ produces CONTRACTION of the cervix uteri, while INHIBITION produces RELAXATION. This is explained by the fact that the pudic nerve which supplies the clitoris, connects with and is derived from the same source that the nerves which supply the cervix, viz: the sacral nerves from

the sacral segments of the spinal cord. Since the CEREbro-SPINAL nerves predominate in the cervix, and the SYMPATHETIC in the fundus and body of the uterus, the above connection is the more readily understood. Advantage is taken of this by the osteopath in the treatment of dysmenorrhea due to the contraction of the cervix lessening the calibre of the os; also the first stage of labor, INHIBITION of THE CLITORIS in both cases dilating the os. Inhibition at the SACRO-ILIAC SYNCHONDROSES has a similar effect; the sacral nerves being directly reached at these points.

The BLOOD SUPPLY of the clitoris comes from the internal pudic by way of the dorsal arteries of the clitoris and the artery

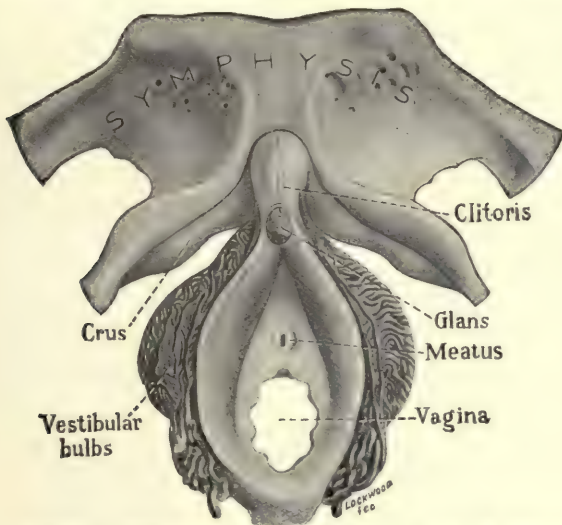


FIG. 7.—Preparation showing clitoris and its vascular supply. (Modified from Chrobak and Roethorn, by Williams.)

of the corpus cavernosum. The VEINS accompany the arteries; the DORSAL VEIN of the clitoris being the principal one. This

vein is the homologue of the dorsal vein of the penis and is one of the principal factors in erection.

THE NERVE SUPPLY comes from the dorsal nerve of the clitoris which is the **termination** of the PUDIC NERVE. This nerve terminates in corpuseles and very abundantly supplies the organ. These terminal nerves are relatively better developed and are found in greater numbers, than the corresponding ones in the penis. LESIONS of the lower dorsal region will affect this nerve, causing either stimulation or inhibition, that is, increasing or decreasing, even destroying, sexual desire.

Williams says "About the middle of the last century Baker Brown proposed the amputation of the clitoris as a panacea for nearly all ails to which women are subject, and for a short time the operation of clitoridectomy enjoyed a marked vogue but has since become completely abandoned."

Among many of the aboriginal races the same operation has been performed from time immemorial as a religious rite and was designated as "girl circumcision."

VESTIBULE. The **vestibule** is a triangular space situated between the lesser lips, bounded anteriorly by the crura of the clitoris and posteriorly by the opening of the vagina. Some writers include with it the fossa navicularis, and define the vestibule as an almond-shaped area which is enclosed between the labia minora and extends from the clitoris to the fourchet. The FOSSA NAVICULARIS is seldom observed in parous women since it is usually obliterated by childbirth. Near the center is found the meatus urinarius, and just below the meatus is a little mucous elevation, which is a guide to the introduction of the catheter when inspection is not used.

Extending from the clitoris along either side of the vestibule are TWO LARGE OBLONG MASSES about one inch in length,

consisting of a plexus of veins enclosed in a thin layer of fibrous membrane. These bodies are called **BULBI VESTIBULI** OR **BULBS OF THE VAGINA**, and are analogous to the bulb of the corpus spongiosum of the male; they being regarded as the cleft homologue of the corpus spongiosum. The **CONSTRUCTOR VAGINAL MUSCLES** lie in relation with these bulbs and by their **CONTRACTION**, as during sexual excitement, these venous plexuses are **COMPRESSED** AND THE **TISSUES BECOME ERECT**. Repeated sexual excitement causes a **WEAKENING OF THESE MUSCLES** and the walls of these veins are dilated and diseased conditions follow. These are shown in Fig. 8.

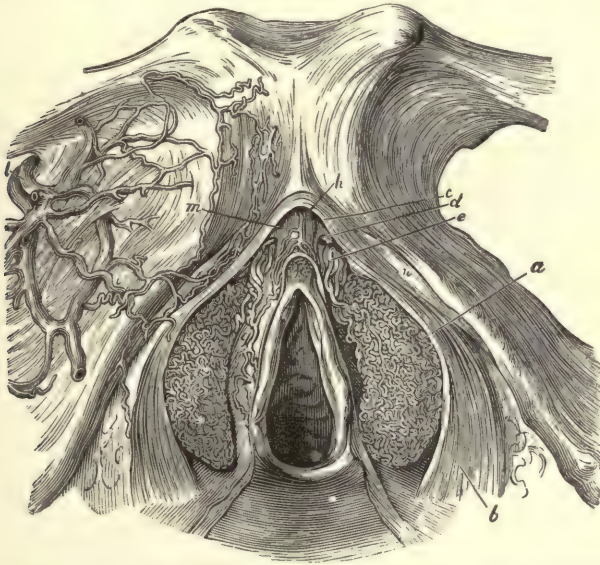


FIG. 8.—The bulbs of vestibule. a. Bulb of vestibule; b, muscular tissue of vagina; c, d, e, f, the clitoris and muscles; g, h, i, k, l, m, n, veins of the nymphæ and clitoris communicating with the epigastric and obstructor veins. (Jewett).

Sometimes these veins become enlarged from other causes and a tumor is formed, which becomes very painful in some

cases. Mucous follicles are located over the vestibule and secrete mucus very freely under any persistent irritation.

BARTHOLIN'S GLANDS. On either side of the commencement of the vagina and behind the hymen are found two bean-shaped, round or oblong bodies, which are analogous to Cowper's glands in the male; these are called the glands of Bartholin and are shown in Fig. 9. They are muco-serous glands and pour

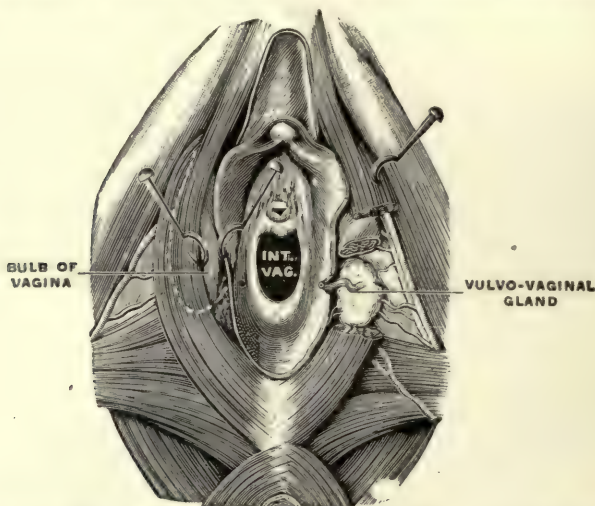


FIG. 9.—The vulvo vaginal gland or gland of Bartholin. The dotted line indicates the limits of the bulbs of the vagina. (Testut).

their secretions upon the mucous membrane by long slender ducts which open just external to the hymen. These ducts often harbor gonococci which gain access to the gland and set up supuration. The greater lip becomes distended with pus and if not opened up, will break on its inner and lower aspect. Such abscesses are common in prostitutes. Other cases of abscess of Bartholin's glands result from trauma.

The glands constantly secrete a glairy fluid, but dur-

ing sexual excitement this secretion is enormously increased. They are supposed to be affected in cases of sexual debility and in cases in which there is a flabby condition of the vulva or lower abdominal wall. Sometimes in cases of difficult labor, INHIBITION OF THESE GLANDS and the nerves in relation, will cause dilatation of the vagina by relaxing the perineum. The sphincter vagina and LEVATOR ANI MUSCLES are the PRINCIPAL factors that control the tone of the pelvic floor.

There are numerous small mucous secreting glands called GLANDULAE VESTIBULARES MINORES which open into the vestibule. These when normal, keep the vulva quite thoroughly moistened and lubricated. Their secretion, like that of Bartholin's glands, is increased by sexual excitement.

HYMEN. The **hymen** is a MEMBRANOUS FOLD containing a few connective tissue fibers, blood vessels and nerve filaments, which closes to a greater or lesser extent, the entrance to the vagina, or ostium vaginae. This membrane is usually perforated by one or more openings through which escapes the menstrual flow. The opening is usually crescentic in shape with the concavity looking upward. Sometimes it is circular, or the membrane may be perforated with many small openings, to which is given the name of CRIBIFORM hymen.

In the new born baby the opening is very small and sometimes obscure. If an IMPERFORATE condition exists, and it causes no particular disturbance, wait until puberty before rupturing it, but if nervous symptoms develop without any other apparent cause, the membrane should be perforated.

In STRUCTURE it is the same as the walls of the vagina, with some modification as mentioned above, since the vaginal walls unite below to form this membrane. Several TYPES, regarding

thickness, have been observed, ranging from a delicate structure resembling a spider's web to a fleshy ligamento-cartilagin-

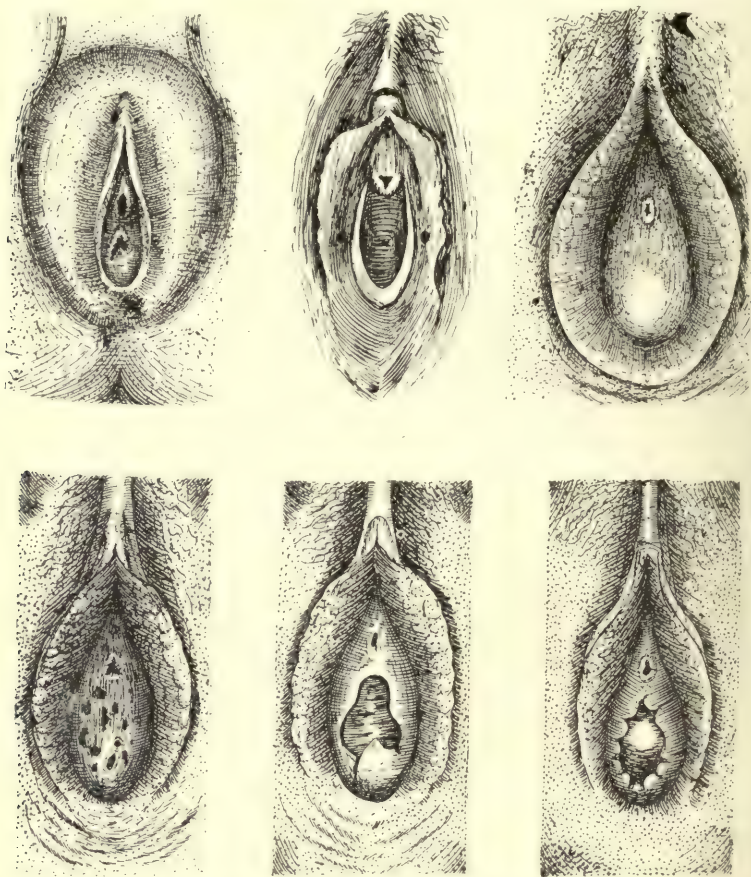


FIG. 10.—Different forms of hymens .

ous membrane. In some it ruptures on the slightest pressure, in others an operation, by which an artificial opening is made, is necessary before a digital examination is possible.

Sometimes at puberty the hymen is imperforate and amenorrhea or rather concealed menstruation exists.

After, rupture the edges cicatrize and the hymen becomes permanently divided into several portions, called CARUNCULAE MYRTIFORMES. The extent of rupture varies with the structure of it. It is generally believed by the laity that the rupture is associated with hemorrhage, but this is by no means always the case, though in rare instances there is a profuse hemorrhage resulting in anemia. The hymen is usually ruptured at first coition, and on this account it is of medico-legal interest; however, it may persist after copulation, so its condition cannot be considered as a reliable test of virginity.

Care should be taken in the examination of a young girl that the hymen be not ruptured; in fact, it is seldom necessary to make a local examination of a virgin, and should be avoided as long as possible. Labor usually destroys the hymen and all that remains are several protuberances, which form a serrated ring around the ostium vaginae. These remains, whether due to childbirth, coition or forcible examination, do not always heal readily but remain irritable and produce vaginismus and dyspareunia. Forms of nervous affections also are attributed to this pathological condition of the hymen.

THE FOURCHET. The **fourchet** is a thin fold of skin formed by the junction of the posterior ends of the labia majora; sometimes the minora. It encloses a boat-shaped depression, which is called the fossa navicularis. The point of interest regarding it is, that it is either very badly bruised, or lacerated at the first parturition.

THE VAGINA. The **vagina** is a MUSCULO-MEMBRANOUS CANAL which connects the uterus with the vulva. It is continuous above with the cervix, with which it forms the vaginal

vault or **fornices**, and below, with the hymen. The **FORNICES** are divided into the lateral, anterior and posterior from their relation to the cervix uteri. Their size depends on position, length and thickness of the cervix; degree of distention or ballooning of the vagina; and the presence or absence of growths. The **AXIS OF THE VAGINA** forms an angle of about sixty degrees with the horizon, and in its lower portion is about parallel with the conjugate diameter of the brim of the pelvis, while the upper end presents a concavity corresponding to the curve of the sacrum. It has two walls, one anterior and one posterior, which are **HELD IN APPPOSITION**, principally, **BY THE MUSCLES OF THE PELVIC FLOOR**, thus enclosing **AN AIR TIGHT CAVITY**—the true pelvic cavity. The **cavity** of the vagina, which is formed by separation of the walls, is cone-shaped with the base above and its apex at the hymen; in other words, the cavity is shaped like an inverted cone. This is best ascertained by admitting air into the vagina when the patient is in the knee-chest position.

“These walls are composed of three structures; externally, a fibrous sheath, internally, a mucous membrane, and between, there is a double layer of muscles, the fibres of the outer being longitudinal, the inner, circular.” The posterior wall is slightly longer than the anterior, being about three and a half inches in length; while the anterior wall is about two and a half inches. The anterior wall is intimately blended with the urethra and trigone of the bladder, thus any displacement of this wall such as occurs in cystocele, interferes with the function of the above mentioned organs.

The vagina is **CAPABLE OF GREAT DISTENTION**, with power to return to normal without loss of integrity. On transverse section it has the appearance of an “H.” The walls are covered with mucous membrane which, in a normal subject and in vir-

gins, and especially those of the colored race, is thrown into trans-

verse folds or rugae. These rugae aid in promoting sexual excitement and contribute to vaginal enlargement in parturition. Absence of these rugae is indicative of RELAXATION, due to disease or over-distention, AND LEADS TO PROLAPSUS, not only of the VAGINAL WALLS such as rectocele and cystocele, but of THE UTERUS. Near the uterus, the vaginal walls are composed principally of contractile and erectile tissues. The HEALTHIER the VAGINA is, the greater the contractile and erectile power, and the better the uterus is supported. At the lower extremity of the vagina is found a thin band of voluntary muscle called the sphincter vagina, which assists in closing the lumen of vagina. However, the levator ani muscle is the real sphincter of the vagina since by its contraction, the posterior wall of the vagina is tightly drawn against the anterior. Various glands are here located which se-



FIG. 11—Anterior wall of vagina, showing columnae rugarum (Savage.) 1, 2, anterior columns of the vagina; n, ureteral orifice; m, cervix.

crete an acid mucus, which acts as a barrier to the passing of micro-organisms into the uterus. DOUCHES frequently indulged in either wash away or neutralize this acid mucus and CAUSE A WEAKENING of nature's defenses against the inroads of disease. Sometimes this secretion is increased in quantity to such an extent that it is abnormal, and if it also changes in quality it is called **leucorrhea**.

The vagina has a TRIPLE PHYSIOLOGICAL function. During copulation it receives the penis; during parturition it acts as a protection to the child and helps move it along the curve of Carus; and the above mentioned power of the normal vaginal secretion to kill bacteria, and thus prevent infection of the internal organs. In cases in which there is a weakness of the mus-

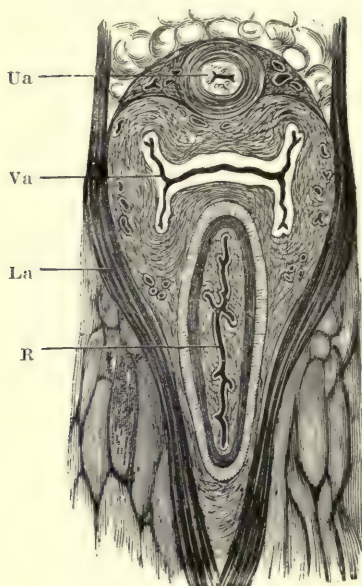


FIG. 12.—Horizontal section of pelvic floor near pelvic outlet, showing vaginal and rectal slits, (Henle.) Ua, urethra; Va, vagina; R, rectum; La, levator ani.

cles of the pelvic floor, the vaginal walls tend to separate, and on account of this, various uterine displacements are likely to occur. Normally, the walls fit together so accurately that during copulation, or the making of a local vaginal examination NO AIR ENTERS THE PELVIC CAVITY, unless the posterior wall is drawn considerably backward, thus ballooning the vagina.

A lesion of the sacrum, lower dorsal and lumbar vertebrae, especially the fifth lumbar, or at sacro-iliac synchondrosis will affect the innervation of the floor AND IT SINKS downward and backward, thus separating the two vaginal walls. When this

occurs, air will enter the cavity which is normally air-tight, and this destroys the equilibrium of the pelvic contents. These points are of special interest to the osteopath in the treatment of prolapsus of the uterus, and are anatomically explained by the fact that the above mentioned lesions affect the pudic and

sacral nerves which supply the pelvic floor. These lesions produce either increased tone or atony, usually the latter.

The **arteries** come from the anterior division of the internal iliac or one of its branches, which include the vaginal, uterine, middle hemorrhoidal, vesical and internal pudic. The lower part gets the middle hemorrhoidal and internal pudic, the middle part the vesical and the upper part, the cervico-vaginal branches of the uterine. The **veins** form a plexus around the vagina from which spring the venae comites which empty into the pudic, thence into the internal iliac. The vaginal veins communicate with those draining the labia, bulb, bladder, uterus and rectum, which fact furnishes an explanation for many of the complications of uterine and rectal vascular disturbances. The **lymphatics**, from the lower third of the the vagina, empty into the INGUINAL LYMPHATIC GLANDS; those from the middle third, into the HYPOGASTRIC, while those from the upper third empty into



FIG. 13. Anterior aspect of uterus,
(Williams.)

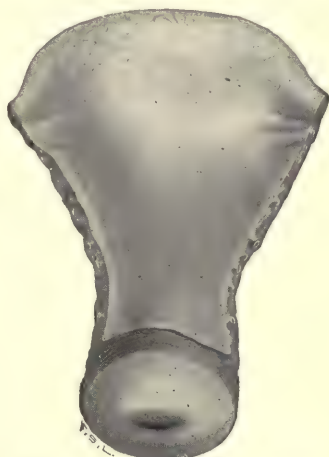


FIG 14.—Posterior aspect of uterus,
(Williams.)

the the ILIAC GLANDS. The **nerves** come from the sympathetic

vaginal plexus, most of which terminate in end bulbs. A practical point might be mentioned here in regard to the way a great many people sit. Instead of sitting on the tuber ischii, the WEIGHT of the body is supported by the SACRUM, and this interferes with the nerve force to the pelvic organs by PRESSURE exerted on the PUDIC nerve at the point where it loops around the spine of the ischium.

THE UTERUS. The uterus is a pear-shaped body which



FIG. 35.—Lateral view of uterus, showing supra-vaginal and infra-vaginal portions of cervix and arrangement of peritoneal covering (Williams.)

is located in the true pelvis, with the larger end upward. It is bounded anteriorly and inferiorly by the bladder; superiorly by the SMALL INTESTINES; and posteriorly by the RECTUM. It is divided into two parts, the BODY OR CORPUS and the CERVIX OR NECK, a constriction corresponding to the internal os, being the line of division. The **body** is divided into the BODY proper, which is that part included between the cervix and entrance of the Fallopian tubes, and the FUNDUS, which is that part located above the entrance of the Fallopian tubes.

IT IS A FREELY MOVABLE ORGAN, being anchored by elastic ligaments. It is moved backward when the bladder is filled with urine and forward, when the rectum is distended. Its LENGTH varies, the average being about three and one-half inches. The relation between the length of the body and cervix varies greatly; in a YOUNG GIRL the BODY is ONLY HALF THE LENGTH OF THE CERVIX; in YOUNG VIRGINS the two are of about EQUAL LENGTH while in MULTIPAROUS WOMEN the cervix is little more than ONE-THIRD of the total length of the

uterus. The **PAROUS** uterus is from a third to half larger than the virgin uterus. After the menopause all the dimensions are decreased.

The portion of the cervix which extends into the vagina is called the **INFRA-VAGINAL PORTION**, and that part above the junction of the vagina and the uterus, is called the **SUPRA-VAGINAL** portion. The infra-vaginal portion extends about an inch into

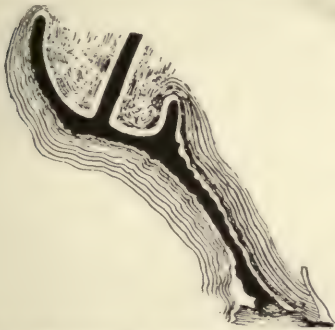


Fig. 16—Showing junction of vagina and cervix.

the upper part of the vagina and can be encircled by the examining finger. This space or cavity around the cervix has been divided for convenience, into the anterior, lateral, and posterior **forlices** of the vagina. Fig. 16 illustrates the relation of the uterus to the vagina and the location of the forlices.

The lower portion of the cervix is **CIRCULAR** LIKE A **ROUNDED CONE** and should feel **SMOOTH** and of about the consistency of the end of the nose. It is pierced in the center by an **OPEN-**

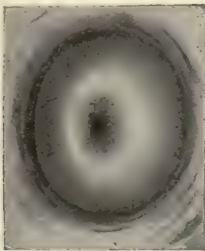


Fig. 17.—Virginal external os.—(Williams)

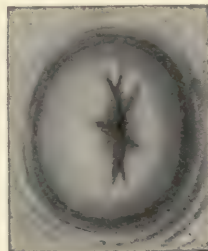


Fig. 18.—Parous external os.—(Williams.)

ING, felt as a dimple in nullipara, as a transverse slit in multi-

para, which is the **os externum**. The external os varies greatly as to size and appearance. In the virgin it is small and oval-shaped resembling a tench's mouth, hence the name **OS TINCAE**. After labor it becomes converted into a transverse slit with changes that are so characteristic, that one can determine with a fair degree of accuracy whether the woman has ever been pregnant. If this slit were extended, it would divide the cer-

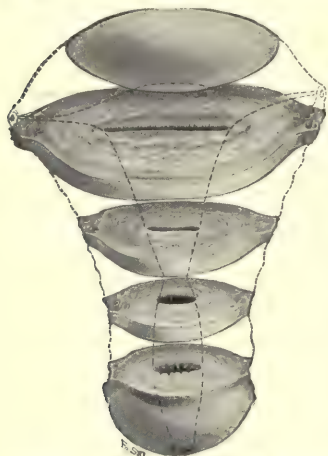


FIG. 19—Reconstruction of uterus showing shape of uterine cavity and cervical canal. (Williams.)

vix into an anterior and a posterior lip; the **POSTERIOR** appearing to be longer on account of the posterior fornix being deeper than the anterior. Normally the cervix is **HARD**, it being composed, in part, of connective tissue in which are found many non-striated muscle fibers which are circular; also **ELASTIC** tissue is present, this permitting of **GREAT DISTENTION**. If it is found to be **SOFT**, it indicates

a **DISEASED CONDITION** OR **PREGNANCY**. In conditions of subinvolution the **OS** is usually **PATULOUS**. In cases in which the cervix is lacerated, it is **IRREGULAR** with roughened elevations which are the result of inflammation of the Nabothian glands. These glands undergo a caseous or cystic degeneration and when this takes place, the name **NABOTHIAN CYSTS** is given them. They feel like **SHOT IMBEDDED IN THE CERVIX**.

During infancy and in the infantile types of uteri, the cervix constitutes as stated before, the larger part of the uterus, and is situated very high in the pelvis. After the menopause the cervix undergoes a fibrous degeneration, it feeling like a

cartilaginous ring, and becomes so shortened that in many cases, the



Fig. 20—Sagittal section through body of newly born child. (Williams.)

vagina finally terminates in the os uteri without any palpable projection of the cervical portion into the vagina.

The **body** is **TRIANGULAR** in appearance and has three openings; one below, the os of the uterus; and two above, one at either corner formed by the entrance of the Fallopian tubes. It is flattened antero-posteriorly; the anterior and posterior surfaces being free, while the broad ligaments obscure the outline of the edges. The **FALLOPIAN TUBES** are attached to each upper corner of the uterus; immediately below them is the attachment of the **ROUND LIGAMENTS** and just beneath the round ligaments the insertion of the ovarian ligaments.

The **CAVITY** of the uterus is small in comparison to its size.

Its length is about two and a half inches. It is TRIANGULAR

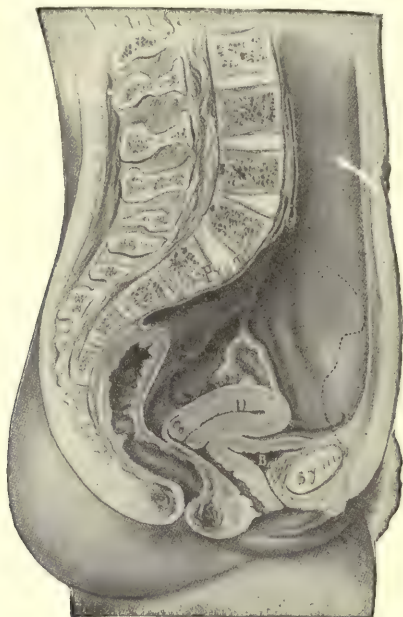


Fig. 21—Sagittal section through adult woman (Kelley) reduced to same size as Fig. 20 for comparison. (Williams.)

in shape and connects with the various openings. At the junction of the cervix and body is a slight constriction which corresponds to the internal os. The endometrium of this part and that of the cervix is so arranged that it has the appearance of an *ARBOR VITÆ*. These *PALMÆ PLICATÆ* consist of two ridges which run along the median line of the anterior and posterior walls respectively and give off numerous lateral branches. It is a curious coincidence that there is this branch-like arrangement of the tissues in the womb, and that a somewhat similar arrangement exists in the cerebellum, the predominate, central organ of the sexual instinct.

The mucous membrane lining the cavity of the uterus is

called **endometrium**. It is a soft, thin, pinkish membrane which is very intimately connected with the muscle fibers forming the



Fig. 22.—Fetal uterus and vagina (Byford from Winkel.) o. Internal os; v. l. anterior lip; h. l. posterior lip.



Fig. 23.—Infantile uterus. (Byford from Winkel.)

uterine wall. In fact, it is so thin and so tightly and securely attached that it is practically impossible to dissect it out. In curettage, in which a sharp instrument is used, it is partly removed and with it portions of the uterine wall on account of the above mentioned facts. This membrane is perforated by ducts of the numerous uterine glands. These GLANDS secrete a thin ALKALINE FLUID, the function of which is, to lubricate the lining, to keep the cavity moist, and to protect against the invasion of micro-organisms. In normal cases cilia are present. The current, produced by their action, according to Hofmeir, is now proven to be from above downward instead of from below upward as was once believed.

The **walls** are composed of three layers; the serous or peritoneal, muscular and a mucous coat. The muscular coat is also divided into three layers; longitudinal, circular and oblique.

The LONGITUDINAL FIBERS predominate in the fundus and receive their nerve supply principally from the SYMPATHETIC nervous system, while the circular fibers predominate in the cervix and are supplied almost entirely by CEREBRO-SPINAL nerves. These two sets of muscle fibers are opposite in their action, that is, when the fundus contracts the cervix relaxes, and when cervix contracts the fundus relaxes. This is called POLARITY and upon it depends, normal menstruation and parturition. The OBLIQUE layer is arranged like the figure eight and the fibers, winding around the blood vessels, thus form a ligature of them during contraction of the uterus.

If the AXES of the uterus and the vagina were extended, they would, in a theoretically perfect case, meet at right angles; however, this varies according to the distention of the bladder and rectum. In the GENU-PECTORAL position the uterus, if in a normal position, will be in a PERPENDICULAR line, the heavy end or fundus down. In treating the various displacements, especially retro-deviations, advantage is taken of this, since the uterus, when the patient is in this position, like a pendulum tends to swing toward the perpendicular line, which is the normal position, unless held out of position by adhesions. In a nulliparous patient this treatment is first used if a displacement of the uterus exists, which, if coupled with a "lifting up" manipulation of the prolapsed bowels, is successful in most cases.

The CERVIX is regarded by some as a large mucous gland; injury or disease of which produces an abnormal secretion or leucorrhœa.

The **blood supply** of the uterus is from two sources, the uterine and ovarian arteries. The **uterine** comes from the anterior division of the internal iliac, and after descending for a short distance enters the base of the broad ligaments, crosses the

ureter and reaches the side of the uterus. It divides just before reaching the supravaginal portion of the cervix into two branches: the **SMALLER**, or cervico-vaginal, supplies the lower portion of the cervix and upper part of the vagina; the **LARGER** becomes markedly convoluted and extends along the margin of the uterus and gives off numerous branches which penetrate into its substance. It finally divides into three terminal arteries; the ovarian, the tubal and one going to the fundus; the names indicating their destination. **PULSATION** can be readily felt in these arteries when they are congested, especially if there is metritis.

The **OVARIAN** is from the abdominal aorta. It enters the broad ligament near the origin of the infundibulo-pelvic ligament and from this part numerous branches go to the ovary. The main stem traverses the entire length of the ligament and supplies the fundus of the uterus, there anastomosing with the ovarian branch of the uterine. **ALL THE ARTERIES IN THE UTERUS FREELY ANASTOMOSE.**

The **VEINS** are formed into plexuses around each artery. The blood from the lower part reaches the internal iliac vein; that from the ovary and upper part of the uterus and broad ligaments is collected by a great number of veins which go to form a large plexus, which on account of its supposed resemblance to a ten-drill is called the **pampiniform plexus** of veins. The ovarian vein drains this plexus. The right ovarian terminates in the inferior vena cava, the left in the renal; the former at an acute angle, the latter at about a right angle.

The **lymphatic** vessels of the lower part of the uterus terminate in the hypogastric glands, which are situated between the hypogastric and external iliac arteries. The lumbar glands drain the remaining part of the uterus.

The **nerve** supply is from two sources, cerebro-spinal and

sympathetic. The anterior divisions of the second, third and fourth sacral nerves largely supply the circular muscle fibers of the cervix. The body is supplied almost entirely by the uterine and ovarian plexuses; the uterine being derived from the pelvic or inferior hypogastric plexus and sacral nerves and the ovarian from the renal and aortic plexuses. Some authors speak of a large cervical nerve ganglion, which lies to the side of, and behind the cervix.

LIGAMENTS OF THE UTERUS. The **LIGAMENTS** of the uterus are eight in number, two **BROAD**, two **SACRO-UTERINE**,

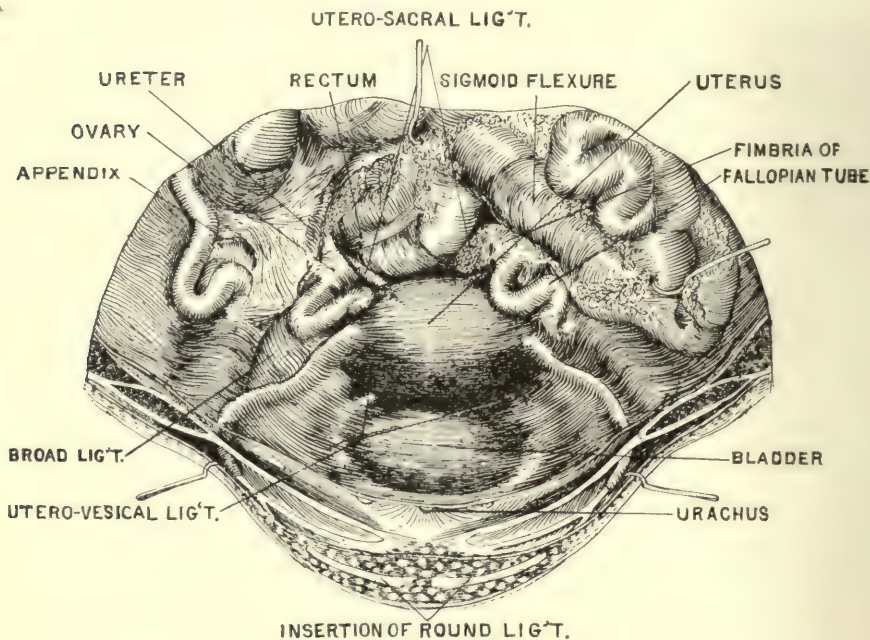


FIG. 24—Superior view of pelvic viscera.

two **ROUND**, **VESICO-**, and **RECTO-UTERINE**, which serve to anchor, rather than support, the uterus. Six of them are composed of

folds of the peritoneum, the remaining two, the round ligaments, are musculo-fibrous in structure.

All of them are more or less CONTRACTILE and ELASTIC, and by osteopathic treatment these properties can be increased or decreased. In the treatment of the various uterine displacements, but particularly prolapsus, it is the aim of the physician to restore tone to these ligaments, in fact, this must be accomplished before a cure can be effected.

The **vesico-uterine** ligament is a fold of peritoneum which is attached, anteriorly to the bladder and posteriorly, to the supra-vaginal portion of the cervix and lower part of the corpus. Some authors speak of this fold of the peritoneum as an adhesion, which term describes it more accurately than does the term ligament. Its FUNCTION is to hold the lower part of the uterus in position, that is to hold the uterus in relation with the bladder. Its action is counteracted by that of the sacro-uterine ligament. The two sacro-uterine ligaments SUSPEND the uterus in the pelvic cavity and with the vesico-uterine form an axis or fixed point, around which nearly all the uterine movements take place. In distention of the bladder the body of the uterus is forced backward and the cervix moves forward. The reverse is true in impaction of the rectum. The uterus CANNOT DESCEND unless the utero-sacral ligaments relax; it cannot rise without relaxation of the anterior or vesico-uterine ligament.

One cannot better ascertain the nature, direction and extent of these movements than by provoking them by means of the finger in the vagina, by which pressure is exerted on cervix. In pushing the cervix backward the fundus moves forward; in pulling it forward the fundus goes backward; in pushing or pulling it to the right, the fundus is rotated to the left, and vice versa. In short, the fundus, in a normal case, is always in an opposite

direction to that of the cervix and is freely moved by the above methods. In inflammatory conditions of the vesico-uterine ligament, such as occur in local peritonitis complicating, or following metritis, adhesions are likely to be formed which bind the uterus to the bladder. As a result of this the bladder is irritated. At first there is frequent micturition followed by, in pronounced cases, a sort of spasm or tenesmus immediately after the completion of the act.

SACRO-UTERINE LIGAMENTS. The **sacro-uterine ligaments** are two folds of peritoneum which are attached to the anterior surface of the second sacral, sometimes the first, or as high as the fifth lumbar vertebra, and to the posterior surface of the uterus on a level with the os internum. When the patient is in the erect posture they are nearly vertical, which position very materially assists in supporting the uterus. They are known as the folds of Douglas and constitute the upper lateral boundary of the pouch of Douglas and are the most important of all the ligaments. They contain contractile fibers and are called the **retractor muscles** of the uterus. Deaver describes them as flat muscular bands which extend from the uterus at the level of the internal os, beneath the layers of the recto-uterine ligament, to the sides of the sacrum opposite the lower border of the sacro-iliac articulation. Between the two ligaments passes the rectum, as shown in Fig. 25. In distended conditions of the rectum these ligaments are affected, that is, they are irritated and tend to retract the uterus. These ligaments, working in conjunction with the round ligaments, hold the uterus in anteversion, and if both are shortened, ante flexion will result. Also the ligaments prevent the uterus from being pulled down very far, and if there is a condition of prolapsus, the traction exerted upon them by the weight of the uterus, will result in an irritation of

the nerves which make their exit at the first, second and third sacral foramina, hence the backache which usually accompanies such conditions. These ligaments play a very important role

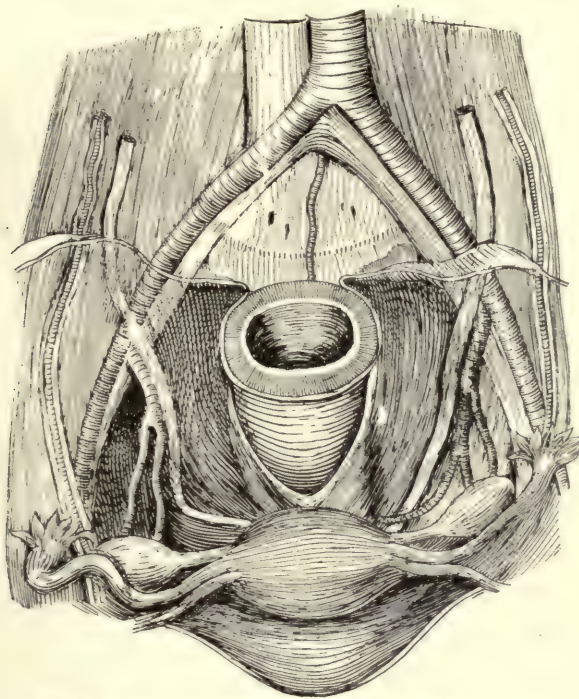


FIG 25.—The utero-sacral ligaments; showing relation to rectum—(After Testut).

in uterine displacements. If they retain their normal muscular tone and contractile power, the uterus can with difficulty be displaced.

The NERVE supply of THESE LIGAMENTS is very great on account of their structure, they being composed of peritoneum and muscle fibers. It comes principally from the third and fourth sacral nerves. Since these nerves also supply the pelvic floor

and uterus, a disease of one part will affect the other. A lesion affecting one will in time affect all. A relaxed vagina means a relaxed condition of the sacro-uterine ligaments and thus furnishes an almost infallible sign as to the condition of the uterus.

THE RECTO-UTERINE LIGAMENT. The RECTO-UTERINE ligament is a fold of peritoneum which connects the rectum with the lower part of the uterus and is really a part of the sacro-uterine ligaments, it being enclosed by them. This fold of peritoneum which is placed between the rectum and uterus also helps to form the pouch of Douglas. Adhesions sometimes exist between the two layers of peritoneum forming the walls of the cavity, thus obliterating it and fixing the uterus to the rectum.

BROAD LIGAMENTS. The broad ligaments, sometimes called the pelvic diaphragm because they divide the pelvic cavity into two parts and move synchronously with respiration, are TWO LATERAL parts of the double peritoneal folds, which continue from the bladder over the uterus to be reflected on the rectum, and CONTAIN within their folds the uterus and its appendages, the ovaries and their ligaments, Fallopian tubes, arteries, veins, lymphatics and nerves supplying the uterus, the parovarium and the round ligaments.

They RESEMBLE, in shape, the outstretched wings of a bat and are attached to the edge of the UTERUS and to the PELVIC WALL. Their attachment to the pelvic wall corresponds to "a line extending from a point midway between the sacro-iliac articulation and the ilio-pectineal eminence, downward and backward between the great sacro-sciatic notch and the obturator foramen to the level of the spine of the ischium." Thus a partial dislocation of the innominate bones will, in some way, affect this end of the broad ligament. The upper surfaces are free, while

the other parts are attached to adjacent structures and viscera and are continuous with the pelvic peritoneum.

They are not formed entirely of peritoneum but are **LINED** throughout their whole extent with a layer of muscle fibers. Their **FUNCTION** is to prevent lateral displacements, or in fact, any other displacement resulting from a change of posture of the body. When they are severed in the dead body, the uterus, obeying the laws of gravity, inclines to the side on which the body is lying, while it reassumes its position when the ligaments are sutured.

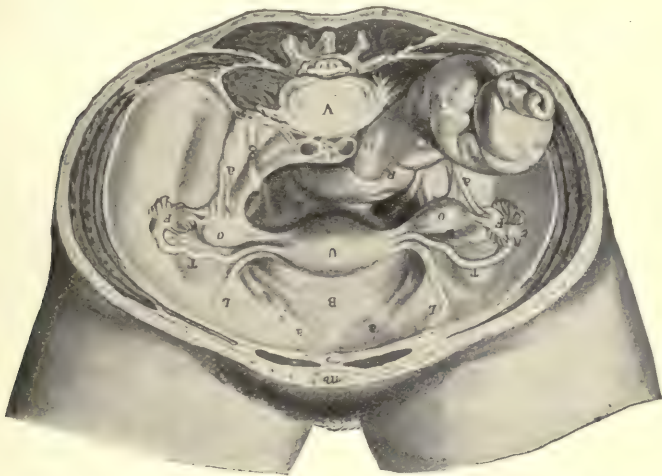


FIG. 26—View of pelvic organs seen from above (Savage). R. Rectum, O. Ovary, F. Fallopian tube, F. Fimbriae, L. Round ligament, U. Uterus, B. Bladder, V. Vertebra, M. Pubefat, b. Broad ligament, g. Ureter.

Between these two layers is located a pampiniform plexus of veins which drains the ovaries and uterus. From the fact that the broad ligaments are attached to the edges of the uterus any forward or backward displacement will necessarily **twist** these ligaments and compression of the vessels in the broad lig-

aments varying with the amount of displacement, results. Pressure on the veins forming the above mentioned plexus, produces a condition analogous to varicocele in the male. This condition is hard to diagnose during life, but a thickened, lumpy, tortuous condition of the broad ligaments is symptomatic of this disease, especially if there is a dull, constant ache in the region of this plexus. This congested condition also follows or accompanies UNGRATIFIED SEXUAL desire, and is most to blame for the heavy dead ache invariably referred to the ovary, in such cases. As a result of this varicose condition, the ovary atrophies or degenerates; the FIBRO-CYSTIC form of degeneration being most common.

In CONGESTION of the uterus following displacement, the uterus, if possible, should be held in normal position for a few minutes in order that these ligaments may become untwisted and the engorgement of the blood be relieved. This can be done digitally or better by the "Old Doctor's" UTERINE REPOSITOR.

Inflammation of these ligaments results in ovarian or Fallopian tube disease, and in lateral displacement of the uterus, as a result of their shortening, which is the usual effect of inflammation. A great many reflex troubles depending upon uterine disease, result from a twisting or straining of these ligaments, that is, the DISPLACEMENT in itself DOES NOT CAUSE VERY MUCH TROUBLE UNLESS IT AFFECTS THE NERVES AND BLOOD VESSELS which are enclosed between the two layers of these ligaments. A great deal of the tenderness of the abdomen which accompanies uterine disease, is due to a THICKENING AND CONGESTION of these ligaments, and by replacing the uterus the soreness will usually disappear within a short time. In congestion or inflammation of these ligaments the patient complains of a drawing sensation in the side. On palpation in such conditions the ligaments can

easily be palpated. I make it a routine practice to closely examine these ligaments when uterine trouble exists, since the cause or effect is commonly found in them. In many cases this TIGHTENING OR DRAWING SENSATION is entirely due to a CONTRACTION of this ligament; which condition follows strains, muscular, bony and visceral lesions. Reaching up, as in overhead work, is responsible for many cases.

ROUND LIGAMENTS. The **round ligaments**, two in number, are attached to the upper corners of the uterus just in front of and below the entrance of the Fallopian tubes, and terminate in the mons Veneris, symphysis pubis, and labia majora. Their course, describing a curve, is first upward and outward, then downward and forward outside the bladder to the internal abdominal ring and then through the **inguinal canal**, over the pubic bone, at which place they terminate in the above mentioned structures. They are COMPOSED of FIBROUS tissue and MUSCLE FIBERS which are CONTINUOUS WITH THE MUSCLE FIBERS OF THE UTERUS, AND ARE CONTRACTILE. They receive additional muscle fibers, while in the inguinal canal, which muscle fibers correspond to the cremaster muscle in the male. These ligaments give off muscular branches which strengthen the EXTERNAL ABDOMINAL ring.

An artery, the funicular, a branch of the superior vesical, a plexus of veins and the genital branch of the genito-crural nerve, are contained in, or accompany the ligament.

In diseased conditions of the uterus which cause a weakening of its walls, the effect extends to the round ligaments, causing their relaxation. During fetal life the peritoneum accompanies the round ligaments, forming a pouch called the canal of Nuck, which corresponds to the processus vaginalis of the male, but usually becomes obliterated at birth. Sometimes it is persist-

ent, and congenital female hydrocele results. During pregnancy the round ligaments become very large and vascular. The stretching of these ligaments during pregnancy, as a result of the enlargement and ascent of the gravid uterus, is productive

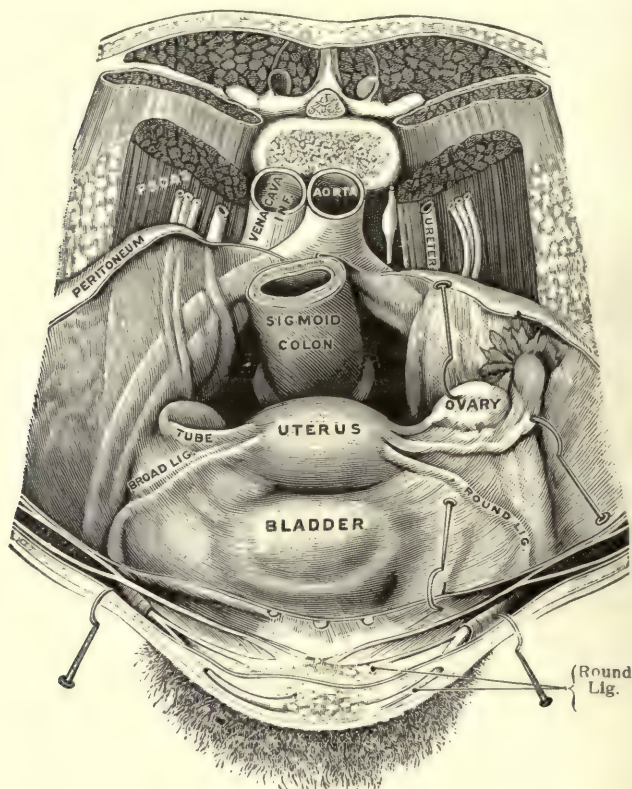


FIG. 27.—The pelvic viscera of a woman seen from above, (the left ovary and tube have been drawn up into the left iliac fossa) (Testut)

of more or less pain or discomfort in the iliac fossæ. Their FUNCTION is to hold the uterus in ANTEVERSION and prevent retro-displacements resulting from coughing or straining at stool. In

cases of weakness of the uterus, these ligaments lose their tone and the tendency to retro-displacement increases upon any increase of intra-abdominal pressure. This function is ARTIFICIALLY restored, or at least is supposed to be restored, by ALEXANDER'S OPERATION, which consists of a shortening of the round ligaments. HERNIA has followed this operation as a result of the weakening of the abdominal wall at the point of exit of the ligament at which place the incision is made.

FALLOPIAN TUBES. The **Fallopian** tubes, named after their discoverer Fallopius, are two tubes about the size of slate pencils, which connect the ovaries with the uterus. They are from three to five inches in length. The tubes have their origin in each corner of the uterus, going first outward, then turn backward, finally curving round the free end of the ovaries, some-

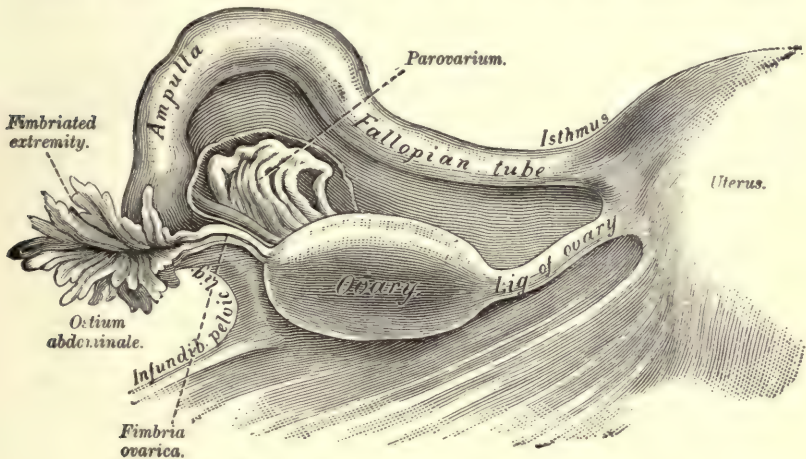


FIG 28.—The Fallopian tube and ovary seen from behind. (Henle)

times entirely surrounding them. They have three coats; serous, muscular and mucous. Upon the mucous coat is found ciliated epithelium which helps to convey the ova to the uterus.

The tubes are divided into three parts; the isthmus, ampulla and fimbriae. The ISTHMUS, or part attached to the uterus, is the smallest part; the opening of the ostium internum is so fine that it barely admits a bristle. The AMPULLA is the middle part and is called the receptacle of the semen, because impregnation is supposed to take place at this point. The ovarian end of the tube, at which end is found the ostium abdominale, is surrounded by fimbriae, they giving it the appearance of having tentacles. One of these called the FIMBRIA OVARIANA, anchors the tube to the ovary and facilitates the passage of the ovum to the tube. Some authors say that these fimbriae are erectile, and, during the escape of the ovum, surround the ovary. The **function** of the tube is to transmit the ova to the uterus and to serve as a receptacle for the spermatozoa. The ova are transmitted by suction, the action of the ciliated epithelium and by peristalsis. The **TIME** required for an ovum to reach the uterus has been estimated to be from five to ten days. I have had patients tell me that they could tell when the ovum was expelled; it usually being about two days after the cessation of the menstrual flow. From a few experiments, I have found that in some cases, a small gelatinous mass is expelled within three days after menstruation, this being the ovum and its attachments, and that impregnation does not occur after its expulsion.

In diseased conditions of the tubes, its function is disturbed, that is, the ova are not transmitted to the uterus, or at least very slowly if at all, hence sterility or tubal pregnancy. Probably a great number of ova fall into the abdominal cavity and there dry up; although in some instances a spermatozoon finds its way there, it being self-mobile, and abdominal pregnancy is the result.

Fluids, when forced into the uterine cavity, find their way

into the abdominal cavity by way of the tubes. This is especially true if intra-uterine douches are used in post-partum cases. It is also the case in some instances in which the tubes are enlarged. Cases of peritonitis are on record which followed an injection of bi-chloride of mercury solution into the uterine cavity; some of the fluid passing into the abdominal cavity by way of the tubes and being absorbed by the peritoneum, produced a poisoning.

In CONGESTION of the tubes, they can be outlined by external palpation. They are felt as tender, cord like bodies extending outward from the edges of the uterus.

THE OVARIES. The ovaries are two almond shaped bodies



FIG. 29.—Ovary at the age of twenty. (From Schultze)

varying in size in different people and at different times in the same individual, which are attached to the posterior layer of

the broad ligaments, uterus and pelvic wall. They are about one and one-half inches long, about three quarters of an inch wide, and one-half an inch thick; and are located within an inch to an inch and a half of the uterus. They are so near, and so securely attached to the uterus, THAT EVERY UTERINE DISPLACEMENT WOULD PRODUCE AN OVARIAN DISPLACEMENT.

The OVARIES are regarded as the MOST IMPORTANT of all the pelvic viscera. Without them there would be no menstruation, poor development of the uterus and the mammary glands, and in fact, the other pelvic organs would practically be useless.

They are held in position by the broad, the infundibulo-pelvic ligaments, which attach them to the pelvic walls, and the ovarian ligaments, which anchor them to the uterus. Although apparently securely attached, their mobility is quite marked, and DISPLACEMENT is one of the most frequent of its lesions.

The INFUNDIBULO-PELVIC LIGAMENT is that part of the upper margin of the broad ligament in relation with the Fallopian tube. The OVARIAN, is a longitudinal fold of the peritoneum into which unstriped muscle fibers from the uterus are prolonged.

During early fetal life they are found in the abdominal cavity. DESCENT is not complete until about the tenth year. They remain QUITE SMALL and undeveloped up to PUBERTY, at WHICH TIME THEY ASSUME THE APPEARANCE OF AN ADULT OVARY.

The EXTERNAL LANDMARKS are the anterior superior spines of the iliac bones; the ovaries being located about two inches internal and one and one-half inches inferior to this spine. The SIZE varies according to the age of the individual, and according to the state of sexual activity. After cessation of sexual life the ovaries atrophy, diminishing in size from one-half to one-third. In old women they are often as small as peas, the atrophy being gradual after the menopause. During pregnancy, how-

ever, they are doubled in size.

They consist of two parts, the STROMA or framework and the PARENCHYMA. They are covered by columnar epithelium, sometimes called germinal epithelium. Immediately beneath this



FIG. 30.—Ovary at the age of forty. (From Schultze)

epithelial layer, is the tunica albuginea which is composed of fibrous tissue which contains a few muscle fibers.

The Graafian follicles, in all stages of development, are embedded in the connective tissue or stroma and contain the ova. The younger and smaller lie in the cortical area. Their number is immense, it being estimated from 40,000 to 70,000. During menstruation one or more of these follicles ruptures, permitting the ovum to escape. After rupture it is caught by the fimbriated extremity of the tube, carried into the tube and transmitted to the uterus, partly by action of the ciliae and partly by peristalsis.

In young women the ovary is smooth and glistening in appearance; but as the woman continues to menstruate, and the Graafian follicles rupture, it begins to look scarred and corrugated; in the aged its surface resembles the convolutions of the brain.

In diseased conditions, such as inflammation and conges-

tion of the ovary, there is some interference with the rupture of the Graafian follicle, and the ovarian form of dysmenorrhea results. This form is best diagnosed by the time of the pain in reference to the beginning of the flow; it preceding the flow from four to six days. As soon as this follicle ruptures, it is filled with a yellowish fluid which is gradually absorbed, resulting in a scar, which is called a **CORPUS LUTEUM**. If impregnation does not follow the rupture of the follicle, it is called a **FALSE CORPUS LUTEUM**, but if impregnation does take place, it is called a **TRUE corpus luteum** and is not readily obliterated.

The ovary is a very common seat of disease and a favorite organ for operations. The **function** of the ovary is to mature and expel the ova, and regulate menstruation, therefore any diseased condition affecting this function will result in sterility or menstrual disturbances, especially amenorrhea.

Williams speaks of an internal secretion of the ovary, that has something to do with the elaboration of the blood. The testes have an internal secretion, and it is generally believed the ovaries likewise elaborate a somewhat analogous product, which plays an important part in the female economy. Such a thing is possible since atrophy of the rest of the genitalia follows so rapidly after removal of the ovaries, also the general effect is quite marked; a **WEAKENING OR LESSENING OF PHYSICAL ENDURANCE** being most common. These things argue against removal of the ovaries for trivial diseases. The true osteopath attempts to save them before advising their removal.

The **BLOOD SUPPLY** comes from branches of the ovarian artery, some six or eight in number, which enter the ovary at the hilum; the **VEINS** follow the arteries and enter the pampiniform plexus in the broad ligament, from which the blood is carried by the ovarian veins to the renal on the left side, and in-

ferior vena cava on the right. On account of the presence of the rectum on the left side and the left ovarian vein entering the renal at right angles, and also the left vein having no valve, THE LEFT OVARY IS MORE COMMONLY DISEASED THAN THE RIGHT.

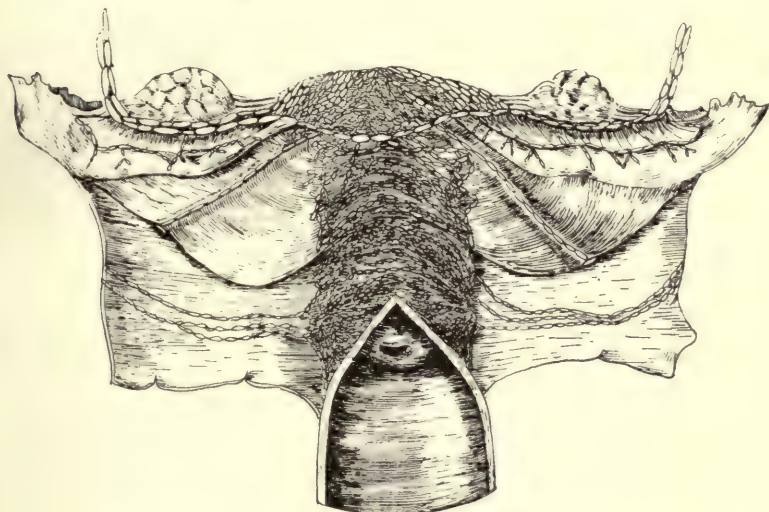


FIG. 31.—Lymphatics of vagina and uterus.

The **lymphatic** vessels empty into the lumbar glands. The **nerve** supply comes from the **INFERIOR HYPOGASTRIC** plexus, by way of the uterine and the **OVARIAN PLEXUS**, the latter of which receives branches from the renal and aortic plexuses. The **nerves** supplying the iliac fossae, the **TENTH** and **ELEVENTH** intercostal, connect with the above plexuses; in fact, the source of nearly all the nerve force for all the above named nerves and plexuses is the **TENTH** and **ELEVENTH** SEGMENTS OF THE **THORACIC SPINAL CORD**. In most all ovarian affections, especially congestion and inflammation, the pain is felt in the abdominal wall in the area corresponding to the distribution of the tenth and eleventh intercostal nerves, which is that part of the iliac fossa on a

level with the anterior superior spines of the ilium. This explains how vertebral lesions in the lower thoracic area affect the ovaries, or in other cases, produce pains similar to those that accompany ovarian diseases and which are often mistaken for such diseased conditions. The PERITONEUM in relation is supplied by the above mentioned nerves. In ovaritis nearly, if not all, the pain is in the parietal layer of the peritoneum which forms a part of the abdominal wall.

Byford mentions that a part of the nerve supply to the ovary, connects with, or is derived from, the superior mesenteric plexus. This plexus supplies in the main, all of the small intestines, hence the cramping in ovarian colic is often referred to the "stomach." Perhaps the pain is really there, but in most cases the chances are it is a "referred" pain. Fig. 26 illustrates the pelvic organs, *in situ*, as seen from above.

THE PAROVARIIUM. Connected with the ovary is a triangular group of small tubules known as the **parovarium**, which is the remnant of the Wolffian body. It is rudimentary and has no function. It is of interest to gynecologists in that it is the seat of various growths, especially of the CYSTIC VARIETY.

THE FEMALE URETHRA. The **female urethra** is a membranous canal from one to one and one-half inches long, which forms an outlet to the bladder. It has three coats; an outer or connective tissue, a middle or muscular and an inner or mucous coat. Vascular PAPILLÆ are found in the mucous membrane, and mucous glands are quite numerous.

In nullipara, the long axis is straight, while in multiparous women it is slightly concave with its concavity upward and backward, when the patient is in the dorsal position. This curve is increased in cystocele and frequently to such an extent that a sound or bougie has to be used to straighten the urethra, if

there is much retention of urine or if micturition is otherwise interfered with. The URETHRA IS VERY DISTENSIBLE which is due to the thinness of its walls, they being one-third thinner than the walls of the male urethra.

The external opening is called the **meatus urinarius**, which is in about the center of the vestibule. It presents a puckered appearance and in multipara, the mucous membrane is often found to be everted and protruding at the meatus. This is the result of subinvolution of the anterior vaginal wall and of the urethra itself. This is surrounded with various glands of which SKENE'S GLAND is the most important. Sometimes it is the seat of a vascular tumor called a **caruncle**, which is very painful.

In the introduction of the catheter if you are certain the parts are clean, inspection is not necessary, otherwise it is. This is a comparatively easy operation, the calibre of the female urethra being much larger and the canal shorter than in the male. It is smallest at the meatus.

It is the seat of various inflammatory conditions, both simple and specific, which give rise to pain, frequent micturition and vulvitis. One writer takes the position that the urethra plays the chief part in orgasm. He says, "whether in the male or female the urethra is the part in which the orgasm occurs; in the male by the passing of jets of semen over the mucous membrane of the urethral canal; in the female by jets of mucus from the neck of the bladder through the urethra. This explains the habit in some individuals of passing all manner of objects into the urethra and even masturbating in that way." Since the nerve supply of the meatus is from the pudic, the above statements are made quite probable.

THE BLADDER. The **bladder** is a hollow muscular organ, located behind the symphysis pubis and supported, almost en-

tirely, by the ANTERIOR VAGINAL wall, and which acts as a receptacle for the urine. The symphysis pubis is in relation in front; the anterior surface of the uterus posteriorly and superiorly, and upper surface of the vagina inferiorly. It has the usual THREE COATS, peritoneal, muscular and mucous. The muscular coat at the neck is so arranged that it forms a loose sphincter; SPHINCTER VESICAE. The base is not separated by peritoneum from the uterus and vagina but is in direct contact, hence the explanation of the frequency of fistulous openings between bladder and vagina or uterus. The female bladder differs slightly in shape, from that of the male, the antero-posterior diameter being shorter and the transverse longer. The CAPACITY of the female bladder is greater than that of the male.

It has three openings, two for the entrance of the ureters and one for the urethra. At the triangle, formed by the entrance of the two ureters, is located the **trigone**, which is the most sensitive part of the bladder. The uterus partly rests upon the bladder and is changed in position by distention or collapse of that organ. At the upper extremity is attached the urachus or ligament of the bladder, which is a remnant of fetal life. Sometimes the urachus does not close and the urine in such cases escapes at the umbilicus.

The MICTURITION CENTER located in the second lumbar segment of the spinal cord controls the action of the bladder. If an unnatural pressure is exerted on the bladder, an impulse is conveyed to the center and then transmitted back to the sphincter muscle and by its relaxation coupled with contraction of the bladder, vacuation follows. On this account, ANTE-DEVIATIONS of the uterus, by producing abnormal or unnatural pressure on the bladder, produce FREQUENT MICTURITION. If the pressure is constant, painful spasms of the bladder will immediately

follow micturition, to which is applied the term *tenesmus*. This is especially true if congestion or inflammation of either is present, which makes the irritation worse.

The bladder is an AIR TIGHT CAVITY and should be kept as such; and the practice of washing out the bladder in case of cystitis is to be condemned in most cases, it being almost impossible to prevent the entrance of air during the operation. Even though no air enters, it is injurious to the walls of the bladder. In the introduction of a catheter, care should be exercised as to the lubricant used, lest something be introduced that might form a nucleus around which a concretion be produced. Glycerine and vaseline mixed in equal parts or pure vaseline is regarded as the best lubricant.

The ARTERIES supplying the bladder are the superior, middle, and inferior vesical. The VEINS form plexuses communicating with those of the uterus, rectum and vagina, and empty into the internal iliac. The NERVES come from the hypogastric plexus by way of uterine and vesical, and directly from the sacral nerves.

On account of similarity of blood and nerve supply between the uterus and bladder, diseases of one affect the other. Lesions producing disease of one often produce disturbances of the other. Often the worst cases of bladder trouble are directly due to uterine disease.

THE RECTUM. The lowest division of the large intestine is called the RECTUM. Although the word rectum means straight, we find on examination there are several curves which are to be considered. It enters the pelvis just in front of the left sacro-iliac articulation; it goes first downward, backward and inward, in front of the third and fourth sacral vertebrae, to the median line. After it has reached the median line, it turns forward and passing between the sacro-uterine ligaments, it lies in contact

with the lower portion of the uterus and upper part of the vagina.

The uterus in retro-deviation can be readily felt through the anterior wall of the rectum. It is capable of a great deal of distention, and sometimes an accumulation of feces might be mistaken for a fibroid tumor if care is not used in the diagnosis.

The RECTUM is composed of THREE coats, peritoneal, muscular and mucous. The muscle fibers are arranged into a longitudinal and circular layer. At the upper limit of the ampulla or dilated portion, which is on a level with the attachment of the vagina to the cervix, the circular fibers are best marked and there form the internal sphincter ani muscle. In cases of constipation due to atony of the rectal walls, and such cases are common, the mucous membrane is found to be prolapsed with transverse folds which entirely occlude the lumen.

The upper portion is covered with peritoneum; the middle, in front only, by a fold which forms the pouch of Douglas, while the lowest portion is entirely free from peritoneal attachments. The muscles connected with the rectum are the two sphincters and levator ani, the latter pulling the rectum and perineum forward and upward. An interesting fact is that the bowel develops FROM BELOW UPWARD, according to Dr. Still, meeting the small intestine, which is developed in the reverse direction, at the cecum. On this account the nerve supply comes from the lower part of the spinal cord, and advantage should be taken of this in the treatment of constipation.

Relations. The RECTUM lies between the two sacro-uterine ligaments, (see Fig. 25) and is in contact with the left ureter and left internal iliac artery, having the left ovary in front and lying in relation with the pyriformis muscle and sacral plexus. In front it is separated from the uterus by the pouch of Douglas

and sometimes the small intestines. In distention of the rectum produced by constipation, the uterus is forced forward and the circulation in the bowel and uterus interfered with. Again, in retro-deviations of the uterus, pressure is exerted upon the rectum, which may cause constipation, and pain or numbness in the limbs, this being on account of the pressure against the sacral nerves. Hemorrhoids, both internal and external, may also re-

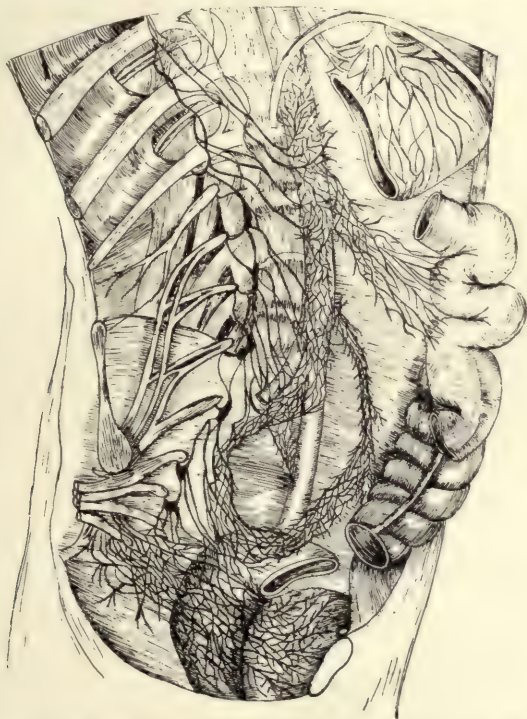


FIG. 32.—The sympathetic nerve supply to the pelvic viscera.

sult. On account of the presence of the rectum on the left side, and especially if there is constipation, the left ovary is more frequently affected than the right.

The BLOOD supply is from the superior hemorrhoidal, from the inferior mesenteric, the middle hemorrhoidal, from the internal iliac; and the inferior hemorrhoidal from the internal pudic. The VEINS form a large plexus which accompanies the arteries. A part of the blood returns by way of inferior and middle hemorrhoidal to the internal iliac, and part by way of the hemorrhoidal to the inferior mesenteric veins. The NERVES are mostly from the sympathetic, but some come from the sacral plexus. Quain says: "Experiments on animals have shown that the longitudinal muscle fibers of the rectum are supplied with motor nerves from the anterior roots of certain of the sacral nerves, SECOND AND THIRD, which nerves also supply inhibitory fibers to the circular coat; whereas, the fibers of the HYPOGASTRIC PLEXUS which supply the circular muscular tissue with motor fibers, are derived from white rami-communicantes of the anterior roots of certain of the LUMBAR NERVES, which join the sympathetic chain and lose their medullary sheath before passing to their distribution in the muscular coat."

The rectum acts as a receptacle for the feces. Their presence STIMULATES THE SENSORY NERVES INNERVATING THE BOWEL, which impulses thus set up, are carried to the defecation center and this center in turn, sends an impulse back to the muscles which control the act of defecation. Sometimes lesions exist which tend to lessen the degree of irritability, hence there must be a greater irritant in order that impulses may be originated and in such cases, constipation results. Again, the sensory nerves may be irritated, thus keeping the center in a state of activity, and from this follows diarrhea.

In practice, the close sympathy that exists between the uterus and rectum is often overlooked. One organ reacts on the other, and on this account VARIOUS RECTAL AFFECTIONS

are the RESULT OF A DISEASED OR DISPLACED UTERUS, and the treatment should be directed to it instead of the rectum. This remark especially applies to the condition of hemorrhoids, which we find very common in parous women. Pain low down in the left iliac fossa, is often due to a displaced uterus pressing on the rectum. This pain, which is quite constant, may be as low as Poupart's ligament. Replacement of the uterus usually gives immediate relief.

THE PELVIC PERITONEUM. The **pelvic peritoneum** is a continuation of the abdominal peritoneum, which, like a cloth, covers the superior portion of the pelvic organs, folds of which drop down between the organs forming their ligaments. The peritoneal sac is a LARGE SPACE in which is a small amount of lymph distributed over the surface for the purpose of lubrication. The LYMPHATIC VESSELS collecting the lymph eventually empty into the RECEPTACULUM CHYLI, hence obstruction of the thoracic duct will cause an accumulation of lymph in the peritoneal cavity, which condition is called ascites.

Beginning in front, the peritoneum extends from the abdominal wall to the top of the bladder, covering its posterior wall down to the level of the internal os uteri, and forming the vesico-uterine ligament. From the posterior surface of the bladder it passes to the anterior wall of the uterus, covering the anterior wall as far down as the internal os; it then covers the edges, forming the broad ligaments, and posterior surface of the uterus, going as low as the upper portion of the vagina, from which it passes to the rectum, thereby enclosing a space called the POUCH OF DOUGLAS; the LOWEST POINT of the peritoneum. This pouch is partially filled with small intestines and contains the ovary when prolapsed. The peritoneum covers the anterior portion of the middle, third, and surrounds the entire upper portion of the rectum.

The peritoneum in the female IS PERFORATED by the entrance of the Fallopian tubes and on account of this, infection may be transmitted directly into the peritoneal cavity; also there is a possibility, as mentioned before, of the injection of fluids into the peritoneal cavity in intra-uterine douches, especially when the tubes are diseased. The peritoneum has great absorptive qualities and in case of retention of menses, peritonitis may result. The rapidity of absorption is partly explained by the great number of lymphatic vessels, the extensive area of membrane drained, and by the peristalsis of the bowels which disseminates the toxic material.

The peritoneum is very sensitive and in peritonitis, the least movement produces excruciating pain. The most sensitive portion is that in relation with the small intestines. A sudden displacement of the uterus usually sets up an acute attack of peritonitis. The author has treated a number of cases of fevers which were due to a displacement of the uterus which was affecting the peritoneum.

During pregnancy the peritoneum is hypertrophied and stripped from off the bladder. It should undergo the process of involution after labor similar to that of the pelvic viscera. Often this does not occur, and thus it remains stretched and as a result the UTERUS IS TOO FREELY MOVABLE and can be pushed from one side of the pelvic cavity to the other. On this account the uterus will be found to be in a different position, nearly every time it is examined, for quite awhile after delivery.

In inflamed conditions of the uterus the disease may extend to the neighboring peritoneum and there set up a condition of perimetritis or local peritonitis, this usually terminating in adhesions. These adhesions are in the peritoneal cavity and care should be taken in their treatment lest there be hemorrhage,

fermentation of the blood and diffuse peritonitis. The function of the peritoneum is to anchor or support, and to permit of free motion of, the viscera surrounded by it.

THE PELVIC FLOOR. The PELVIC FLOOR, which is com-



FIG. 33.—Pelvic floor showing openings and direction of muscle fibers.

posed of muscles, fascia, fat and connective tissue, closes the lower opening, of the true pelvis. It is usually divided into an ANTERIOR, or pubic segment, and a POSTERIOR or sacral segment. The ANTERIOR SEGMENT is triangular, being attached to the pelvic bones in front and includes the structures lying between the

symphysis and the vaginal orifice. The urethra and anterior vaginal walls with the intervening fibrous tissues, go to form the larger part of this portion of the floor.

The **sacral** segment includes the structures between the vaginal orifice and the posterior pelvic wall. Comprised in this are: the perineal body, posterior vaginal wall, muscles and connective tissue. Both segments taken together comprise the **perineum**. The principal muscle is the **LEVATOR ANI**, attached anteriorly to the symphysis pubis and posteriorly to the coccyx. It is a swing-like muscle, which, uniting with its fellow of the opposite side, forms the most important part of the pelvic floor. It is called by some the pelvic diaphragm; by its contraction it assists the forcing of the blood through the uterus, helps to expel fecal matter and most important of all, it is the **PRINCIPAL FORCE WHICH HOLDS THE POSTERIOR VAGINAL WALL AGAINST THE ANTERIOR**; in short, it pulls the perineal body forward and upward.

The other muscles of the pelvic floor are from without inward; the transversus perinei, the ischio-cavernosus, the sphincter ani, the sphincter vaginae, the coccygeus and the levator ani, the last mentioned muscle being located deepest. Although these various muscles have been dissected out, as separate muscles, yet their function is practically the same, that is, they act together in pulling the perineum forward and upward.

The **PERINEAL BODY** is composed of the tissues comprised between the rectum and the posterior vaginal wall. In it are inserted most of the muscles of the pelvic floor. Upon its integrity depends the apposition of the vaginal walls; and upon this depends the position of the uterus, at least its height. In parturition this body may be lacerated through ignorance or carelessness, thus weakening the keystone of the pelvic floor

I know of few instances in which the osteopath was guilty of permitting laceration of this body deep enough to require stitches, the prevention of laceration of the perineum being one of the claims for the superiority of osteopathic obstetrics over all other methods. The author, out of over three hundred cases, has not had a case in which the laceration involved the muscle fibers to such an extent that an operation was necessary and only in a very small per cent. of cases was there any laceration at all.

The **perineum** includes all the structures between the coccyx, tuber ischii and the pubes. Sometimes this is confused with the perineal body, but is a broader term, and includes the perineal body. The pelvic floor is the principal support of the uterus and upon its INTEGRITY and TONICITY depends the position of the uterus. There is a certain amount of physiological descent of the pelvic floor under different conditions. In respiration the floor alternately ascends and descends. In coughing, laughing or in any other condition involving an increase of intra-abdominal pressure, it is forced downward. Deep breathing, if performed regularly and evenly, strengthens it.

In weak people, that is, in a condition of general physical weakness, the floor remains in a POSITION OF DESCENT. The TONE of the floor depends, partly at least, on the general condition, and on this account there is a great deal of difference in the tonicity of the pelvic floor in different people. For instance, if I find the vagina large, a leucorrheal condition and the tissues soft, I at once suspect a displacement of the uterus. If the pelvic floor is relaxed, the two walls of the vagina will not be held in apposition and air will enter the vaginal canal, which destroys the equilibrium of the intra-pelvic pressure.

The NERVE SUPPLY of the pelvic floor is derived principally from the pudic. The third and fourth sacral nerves, anterior

divisions, also send filaments to it. From the nature of the nerve supply, especially when the most important function of these nerves is remembered, a connection between sexual impotence, or other similar disorders, and the condition of the pelvic floor can readily be seen. Excessive venery produces a relaxation of pelvic floor. The converse is also true. A rigid pelvic floor usually is indicative of an irritated condition of the sexual apparatus. Hemorrhoids cause an increase in sexual passion. The above is true of the male as well as of the female.

To STRENGTHEN the pelvic floor, restore the normal nerve supply by correcting lesions, prohibiting excessive venery and by exercising the muscles forming the floor. Knee parting against resistance is very good to develop these muscles. This can best be done in the sitting posture. The RESTRAINING bowel movement is also very good. In this, the bowel is drawn upward, and the muscles of pelvic floor contracted by will power. These, like other muscles, strengthen from use, and if the above mentioned exercise is kept up, the pelvic floor can be materially strengthened. Activity is NECESSARY for muscular development.

THE PELVIC CONNECTIVE TISSUE. The PELVIC CONNECTIVE tissue surrounds the pelvic organs and fills in the spaces between the muscles that are found in the pelvic cavity. Its function is that of steadying the pelvic organs, which, at every step, are moved. From its ELASTIC character, jar from sudden movements of the body as in running, is broken. It also distributes the nerves and blood vessels. It permits of a great degree of stretching, upward as in pregnancy, or downward as in prolapse, without serious impairment of either vessels or nerves. Inflammation of the uterus readily spreads to it, which sets up a secondary inflammation called cellulitis or parametritis. Some-

times it furnishes the location for a deep-seated abscess, which is very obscure and hard to diagnose. I once saw a case of pelvic cellulitis which had been treated for some months for malaria; there being rigors, fever and sweats. A diagnosis can be made by locating the abscess by CAREFUL EXAMINATION. A HURRIED EXAMINATION SO OFTEN LEADS TO MISTAKES IN DIAGNOSIS.

THE BONY PELVIS. The BONY PELVIS is formed by the articulation of four bones, the two innominate, sacrum, and

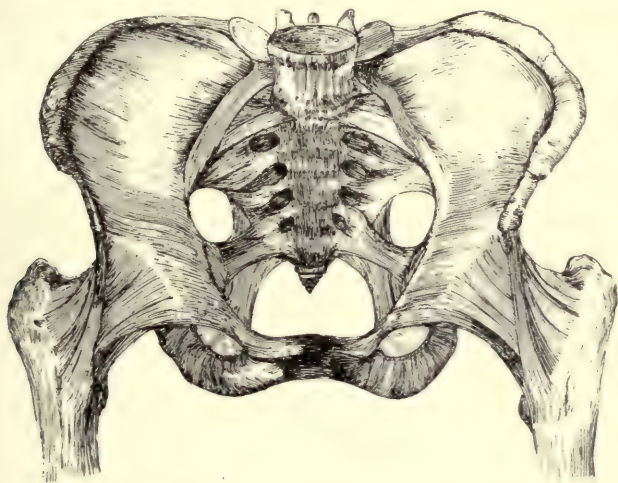


FIG. 34.—The bony pelvis with the ligaments attached.

coccyx, each of which, in turn, is composed of a number of segments that were united early in life. The parts of the innominate bone, the ilium, pubis and ischium unite quite early, the segments of the sacrum unite next in order, while the segments composing the coccyx remain movable until past middle life.

The space enclosed by these bones is called the pelvic cavity and is divided into two parts, the true and false pelvic cav-

ities, the partition between the two corresponding to a plane passing through the sacral promontory and the upper part of the symphysis pubis.

The **true pelvic cavity**, roughly speaking, may be compared to an obliquely truncated cone with its greatest height posteriorly, which measures a little more than four inches, while the anterior portion measures less than two inches. With the woman in an erect position, the upper portion faces forward and upward and the lower portion faces downward and forward, which facts indicate that the canal or tract is a curved one.

The **walls** of the true pelvic cavity are composed of bony muscular, and ligamentous tissues. Posteriorly it is bounded by the anterior surface of the sacrum; laterally by the ischial bones and sacro-sciatic ligaments and muscles, while anteriorly it is bounded by the ascending rami of the ischia, pubic bones, and membrane covering the obturator foramina. This cavity in the female contains some of the small intestines; the bladder, the uterus with its appendages, viz., the Fallopian tubes, ovaries and their ligaments; blood vessels, lymphatics and nerves. Peritoneum or connective tissue surrounds each so that the cavity is securely filled, there being not a portion but that is filled in with tissue of some sort.

The **false pelvic cavity** is bounded below by the plane mentioned above as forming the superior boundary of the true pelvic cavity and comprises the space between the iliac bones. It serves as a receptacle for the intestines. Sometimes the uterus and bladder are forced up in this cavity; the uterus from enlargement due to pregnancy, growths or congestion, the bladder from pregnancy or overdistention.

The **SACRAL PROMONTORY** can readily be felt on abdominal palpation except in the very obese. In downward displace-

ments, of the upper part of the sacrum, it is made more prominent. Sometimes the uterus is incarcerated below the promontory and adheres to the sacrum.

The sacrum was formerly regarded as the "KEYSTONE" of the pelvis but, as Matthew Duncan has shown, this is erroneous. It represents an INVERTED KEYSTONE, since it is wider along its anterior inferior surface than along its posterior superior surface, so that it would tend to slip downward under the superimposed weight of the body were it not HELD IN POSITION by the strong SACRO-ILIAC ligaments.

Certain imaginary PLANES are constructed through the pelvis for the purpose of locating or describing any given part. The PLANE OF THE INLET passes through the sacral promontory and symphysis, forming an angle of about 60 degrees with the horizon when the patient is in an erect posture. Innominate lesions alter this plane. A backward rotation of the ossa innominata is the lesion most frequently found affecting this plane. The plane of the outlet is determined by the tip of the coccyx and the lower part of the symphysis.

The DIAMETERS of the pelvis vary in different individuals and in different races. The INTERNAL CONJUGATE diameter of the inlet is approximately four and a half inches; the external conjugate, seven and a half; the interspinal diameter, or distance between the two anterior superior spines, averages nine inches. This diameter is the most variable of all, the degree of flare of the iliac bones causing the variation.

The pelvic bones form FOUR JOINTS. The symphysis pubis unites the bones anteriorly, and consists of fibro-cartilage, and is made more secure by an anterior, a superior and an inferior ligament. In the young, and during pregnancy, a variable amount of MOTION EXISTS at this articulation. A SYNOVIAL

membrane can be demonstrated in the above mentioned kinds of cases.

The bones separate slightly during parturition, the degree depending almost entirely on the age of the patient. On this account the second stage of labor is easier in young primiparae than in primiparae who are thirty or more years of age. The other articulations are really of greater importance in parturition than the symphysis pubis. Dislocations occur oftener in young primiparae than in other classes, on account of greater mobility of this and the other pelvic joints.

The **sacro-iliac** articulation is usually described as a synchondrosis, but I believe it belongs with the true joints, since a synovial membrane exists. These articulations have a greater amount of motion than the symphysis. The degree of motion depends upon the development of a synovial membrane, age of patient and condition of the ilio-femoral and sacro-iliac ligaments. In parturition, the sacrum is supposed to ROTATE SLIGHTLY. Although this movement is slight, labor is made quite considerably easier by it. Any lesion of either the sacrum or innominate will affect this articulation. Although it is quite a secure joint and well protected by muscles and ligaments, lesions occurring at labor or from other causes, especially trauma, are quite common.

It is rare to find the two innominate the same height. In right handed persons in whom the right half of the body is used more than the left, the corresponding side of the pelvis is often better developed than the other. Ordinarily this irregularity has a PATHOLOGICAL SIGNIFICANCE, and points to a lesion at the sacro-iliac articulation. Dressmakers often discover in customers that one hip is higher than the other.

The **sacro-coccygeal** articulation is much more freely mov-

able than any of the other pelvic joints. It is subject to injury from falls astride an object, from kicks, or blows directly on the sacrum or coccyx. In forward rotation of the upper part of the sacrum, this articulation is thrown into greater prominence on account of the lower part of the sacrum being forced backward. This carries the upper part of the coccyx back, but the muscles and tissues attached to the tip DRAW IT FORWARD, or at least hold it in normal position. Often we blame the coccyx for the disturbance when in reality, the sacrum is at fault.

Posteriorly the contour of the pelvis is determined by the development of the glutei muscles. Generally speaking, the better developed these muscles, the better developed the genital organs, this not being true in obesity. The two sides of the buttocks should be carefully compared. Often one is larger than the other, indicating sciatica or an innominate lesion.

GENERAL CAUSES OF DISEASE.

THE CAUSES of female disease are divided into the **PREDISPOSING** and the **EXCITING**. The predisposing causes are usually chronic, and include heredity, poor development, environment, dress, habits and lesions, the last named being the most important from the osteopathic standpoint. **Education**, or rather the methods pursued in getting it, is an important factor in the etiology of pelvic diseases. The worst feature is the length of school hours, the competition, lack of exercise and position of pupils while seated at their desks. The last mentioned cause is very important and one that is overlooked, or at least minimized, by the old school physicians. Usually the desk is too low and the pupil bends, or rather humps, forward over her book, or in the case of the younger pupils, it is too high. In writing, one shoulder is elevated and the spine assumes an abnormal curve, usually to the right and back, thus predisposing to a right scoliosis and kyphosis. Thus this position repeatedly assumed, affects the normal curve of the spine, which is usually soon replaced by abnormal ones. In the lumbar region especially, the spine is posterior. The pelvic viscera are necessarily weakened and as a result, predisposed to disease. The explanation is, that the lumbar spinal cord and its nerves control the pelvic viscera.

Potter, recognizing some of the defects in our educational system, suggests: "For girls between twelve and sixteen, study hours or school work be restricted to four hours daily; that during each catamenial period, girls should indulge in much mental and bodily repose; and that during the school period especially,



FIG. 35.—Girl writing at desk that is too high, showing effect on spine. (From photo)

which is the period of most active growth, girls should be provided with an abundance of wholesome food. The dress should be constructed with reference to relieving the waist line of all weight and pressure."

The EXCITING CAUSES are many, such as exposure during menstruation, falls, strains, overwork and emotional disturbances. In most cases BOTH a predisposing and an exciting cause are present.

HEREDITY. Heredity is usually named as a predisposing cause of female disease. The defect existing in the mother may be transmitted to a daughter, especially if there is a malformation or syphilitic disease. Again, if the mother is a sufferer from a chronic uterine disease, the weakness or predisposition to pelvic disease may be transmitted. I think this is the true explanation of the part heredity plays in disease; that is, the WEAKNESS, NOT THE DISEASE, is transmitted. On this account it is sometimes well to get a history of the case and to ascertain if a similar condition existed in the mother; if such is found the prognosis is not so good. It must be also noted that children of parents advanced in life at the time of their procreation are, as a rule, less vigorous than those engendered in younger years. Sexual intercourse indulged in to any great degree after quickening, undoubtedly HAS AN EVIL INFLUENCE on the offspring. Sexual pervers result. Nymphomania, or its opposite sexual repugnance, is often developed in the offspring when the above mentioned practices are persisted in. The thoughts and actions of the pregnant mother influence the mental and physical development of the fetus IN UTERO. Some authors state that actual diseases in offspring follow MARITAL RELATIONS DURING PREGNANCY. The offspring of mothers who had exhausted all means of preventing pregnancy, THE CHILD BEING AN UNWELCOME ONE,

early in life begin to show the prenatal influences that were brought to bear. The child is cross, even vicious, this being the mental effect, while in some, there is a physical effect in that the child is marked or the pelvic organs are perverted or weak.

One important case which shows the physical effect of PRE-NATAL INFLUENCE, occurs to me. The mother throughout term complained of a severe backache in the lower dorsal region. The child had such a weak spine that at the age of four years it was unable to sit up, and died in a short time from malnutrition. On examination of the child a lesion consisting of a separation, was noticeable in the lower dorsal region. The pain left the mother immediately on birth of the child. Possibly bony lesions were present in both mother and child, the latter being injured at birth, which is frequently the case, it then being only a coincidence.

The importance of PROPER CARE OF THE PREGNANT WOMAN is not sufficiently emphasized, since the disposition, traits, inclinations, mentality, in fact the entire make-up of the child is undoubtedly controlled, to a great degree, by prenatal influences of parents, especially the mother.

The PHYSICAL influences which are manifest by disease are the ones which in reality, come in the scope of this work. Sexual pervers, nymphomania, masturbation, ovarian and uterine diseases usually classed as "female weakness" are the principal effects on the girl when such diseases and conditions exist in the mother during term.

Civilization has been given as an explanation for the prevalence of pelvic disorders. In the more highly civilized, the mind, brain and nervous system are developed at the expense of the other elements of her physical organism. Childbirth is comparatively easy in the aboriginal woman because the pelvis is large and the fetal head small. Although the above state-

ments are generally admitted as being true, civilization should not be accredited too much in the production of pelvic disease. The most important point is that civilization tends to lessen physical development and increase the mental. If only a happy medium could be struck, that is the physical be developed by work or proper exercise along with the mind, civilization as a cause of disease, would be eliminated.

ARREST OF DEVELOPMENT. Up to the time of puberty the internal female organs are, or should be, QUIESCENT. At the time of puberty there is a GREAT CHANGE AND INCREASE in the nerve distribution to the pelvic organs. These organs BECOME VASCULAR and commence to perform their physiological functions of ovulation and menstruation. Since the pelvic organs develop at puberty and require at this time a large amount of nerve force, this nervous energy should not be directed into other channels, or there will be some interference with the development of the genital organs. If, at this period, the YOUNG GIRL'S NERVE FORCE, which is taxed to its limit in the full development of her organs, is deflected by HARD STUDY OR WORK TO OTHER ORGANS OR PARTS, disease will result. The sympathetic or ganglionic nerves are the regulators of organic life, and form the great channel for nerve distribution to the organs. When in perfect action we have health; when impaired, disease; and when their influence is entirely suspended, death follows. They carry nutrition, the smallest capillary being covered with sympathetic filaments. If this nutrition is used to develop nerve cells and muscle fibers instead of supplying the now developing pelvic organs, NON-DEVELOPMENT, or other disturbances as stated above, will ensue.

There are several conditions which are responsible for this perverted condition of nutrition of the pelvic organs. The in-

tense rivalry amongst the young, (those who have reached the age of puberty) and the competition which leads to over-study, result in the building up of the brain at the expense of the physical; the genitalia on account of their change, being the important parts to suffer. **PHYSICAL OVER-WORK** has a similar effect. Accidents, either from direct injury to the part or resulting in the formation of spinal lesions, produce a perverted nutrition of the ovaries and uterus, which amounts to an arrest of development. This is especially true in cases of dysmenorrhea.

Many a woman **DATES HER TROUBLE** back to the commencement of menstruation, and I find in getting a record of these cases that overwork, either mental or physical, just before or at puberty, is one of the important causes.

TOO EARLY DEVELOPMENT might also be mentioned here. This leads to menstrual disorders, principally **MENORRHAGIA**. It may also excite ovaritis as a result of the repeated congestions of the ovary, which comes from too early development.

Reed mentions **occupation** as an important cause of female weakness. He says: "The modern extension of woman's activity has brought with it more or less of a penalty in the form of genital diseases induced by it. It was not to be expected that women could adjust themselves without damage to labours which, through generations, had been arranged for men. Clerking in stores, with its long hours of uninterrupted standing, lifting and carrying of heavy loads and the performance of overhead tasks, which require stretching of the body, are the most important examples which illustrate the influence of occupation as a cause of female diseases."

CONSTIPATION. **Constipation** is a common cause or accompaniment of female disease; the vast majority of gynecological patients suffering from it. On account of the proximity

of the rectum to the uterus, an accumulation of feces gives rise to local trouble, by pushing the uterus out of its place. Habitual constipation causes OBSTRUCTION TO THE VENOUS CIRCULATION of the pelvis and is a cause of congestive hypertrophy of

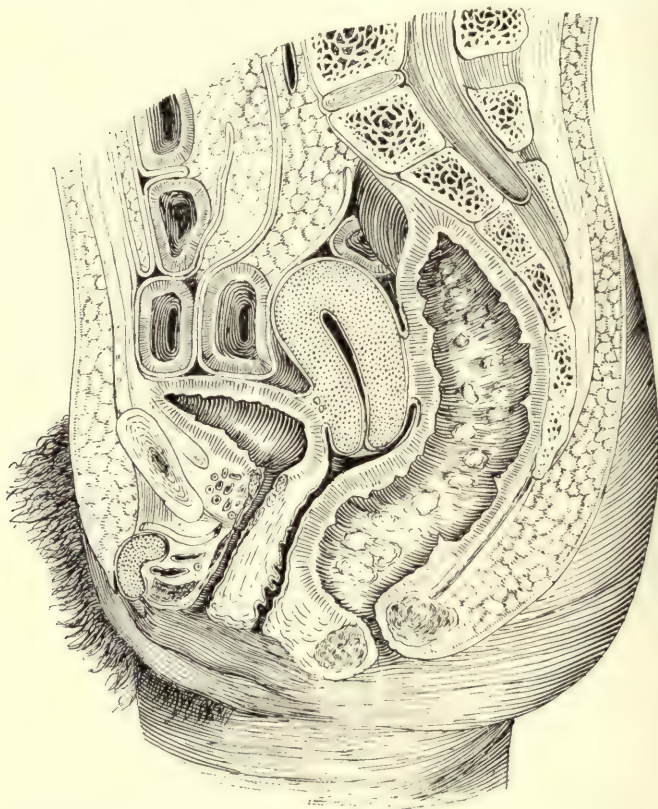


FIG. 36—Impacted bowel forcing the uterus into slight retroversion.

the uterus, a VARICOSE CONDITION of the veins of the rectum and even a stagnation of the blood in the VESSELS that lie between the layers of the broad ligaments. The obstruction to the cir-

culatation is at first purely a mechanical one, but at last the coats of the vessels lose their tone, and, having become habitually over-stretched, are very likely to remain in that distended condition even after the pressure has been removed.

The absorption of the gases and liquid parts of the feces affects the blood, and headaches, neuralgia and a general tired feeling result. The straining at stool, which is a necessary accompaniment of constipation, tends to force the uterus and adnexa downward in a state of prolapsus. In other cases, diarrhea complicates menstruation; in some, taking the place of it. This shows the close sympathy between the uterus and bowel; in fact, all the pelvic viscera are, in a sense, mutually dependent.

DRESS. A girl scarcely enters her teens before fashion and custom require a change in her mode of dress. Instead of her clothes being supported by shoulder straps and buttons, the skirts are held up by a number of strings and bands about the waist. I have counted on patients, as many as ten different bands encircling the waist.

By the wearing of CORSETS, the waist is drawn into a shape little adapted to accommodate the organs of the abdominal and pelvic cavities, and as the ABDOMINAL and SPINAL MUSCLES are seldom brought into use, they BECOME ATROPHIED. The abdominal viscera are compressed and displaced downward by the tightly fitted corset, the action of the diaphragm interfered with, and the VENOUS RETURN from the uterus to the heart hindered. The uterus being very vascular, receives most of this blood thus obstructed, with the result that its specific gravity is increased and it is forced downward.

The wearing of small, TIGHT bands, belts or strings around the waist is to be condemned as much as the wearing of a tightly fitted corset. If such bands are necessary, it is better to wear

a loose corset which prevents them from sinking into the abdominal wall, it being the lesser of the two evils. One writer says: "In cases in which heavy skirts, the weight of which is supported by bands, are worn, corsets should be worn. They should be stiffer than usually made, if they are to effectively protect the soft middle portion of the body from pressure of the waist band.



FIG. 37—Showing enteroptosis from an improperly worn corset.

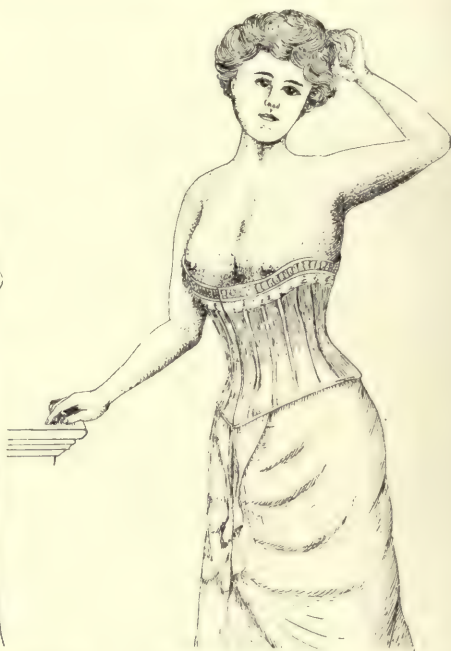


FIG. 38—A properly fitted corset.

The front should be quite straight and the waist measurement should be at least as large as the wearer's waist, measured over a single garment."

The **ribs** are forced **DOWNWARD** until they, in some cases, **TOUCH THE CREST OF THE ILIUM**. This forces the diaphragm

downward also, since it is attached to the lower ribs. The erector muscles of the back are weakened, on account of the body being supported by artificial means. Degeneration and atrophy

of these spinal muscles follow as a natural sequel, and the patient feels weak and exhausted without her corset.

Deficiency of dress of the neck, shoulders, arms and legs is conducive to internal engorgements, which are followed by pathological congestion. These are accompanied by leucorrhea, menstrual disorders, local and reflex pains, and possibly uterine displacements from increased weight.

How common a thing it is for a young lady to attend some function in the evening, dressed in garments entirely different in character and warmth from those

FIG 39—Showing the injurious effect of pressure on the uterus by corset steels when the patient bends forward.

to which she has been accustomed. The most pernicious costume is the decollete. INTERNAL CONGESTIONS particularly follow, since the peripheral vessels contract from the effect of the thermic influences.

If, at the age of puberty, while all articulations are subject to change, high heeled shoes are worn, not only the shape of the feet is altered, but the inclination of the pelvis is changed and the normal curvature of the back deranged; a kyphosis of the lumbar region resulting. The immediate effect is that of back-ache from the strain thrown on the spine.



STERILITY AND ABORTION. The **function** of the female pelvic organs is that of PROCREATION and if this is interfered with or not performed, it constitutes an unnatural state, thus forming an important cause of female disease. Most forms of fibroid tumors of the uterus are more common in the unmarried than in those who have borne children, and still more common in the **sterile** than in any other class. One explanation is that the REPEATED MENSTRUAL CONGESTION and ovarian hyperemia caused by sexual excitement, especially ungratified desires, cause a deposit or produce an irritation from which the tumor forms. In cases of dysmenorrhea, the physician frequently advises marriage as a cure; this is in most cases a confession that he is unable to cure the case. Marriage, when there is an existing uterine disease, is usually contraindicated, it only aggravating the disease, but in some cases of anteflexion or imperfect development of the uterus, it is to be recommended. In many cases the condition is made worse by marriage, if the laws of health and nature are ruthlessly and repeatedly broken.

The practice of PREVENTING CONCEPTION is as old as history. Many methods are in vogue, such as the use of vaginal douches, astringents applied to the mouth of the womb, the use of a sponge to absorb the semen, womb caps, condoms and other devices, all of which have a more or less DELETERIOUS effect on the health of the individual. Although the local effect is not at first very marked, the psychic, as well as the general effect, becomes very great after a while. When practiced very long, the patient becomes thin, nervous, has leucorrhea and feels "all run down." This is in fact the condition. Progressive emaciation is a common sequel. If pregnancy should accidentally take place and the fetus is carried to term, the offspring are affected by being handicapped by a weak constitution, a bad disposition

and possibly a perverted sexual organism. In a large per cent. of cases, abortion, miscarriage or premature labor results.

Recently there was an editorial in one of the leading medical journals in which it was stated that "in the fashionable flats (referring to New York City) A DOG IS MORE WELCOME THAN A BABY." This is undoubtedly true and depicts a deplorable state of affairs. The nation's future is imperiled by such things. Even now the bulk of the children are found in the poor man's home, while those who are capable of properly rearing and educating them, are childless.

Criminal abortion is one of the very important causes of female diseases. Its prevalence is astonishing. Rigid laws have been enacted against the practice, yet every city has its professional abortionists, or its physicians, at least some one of them, are in communication with such and get a per cent. of the income from all patients sent.

The local effects are subinvolution, displacement, leucorrhea, menstrual disorders, especially flooding and irregularity, the various reflex aches and GENERAL DEBILITY. The after, and general effects are NERVOUSNESS, aches of various kinds, and mental depression.

LESIONS. From an osteopathic standpoint, the **lesions** which are found along the spinal column and pelvic bones are the most important of the predisposing, as well as exciting, causes of female diseases.

By lesion is meant, if applied to a bone, a PARTIAL DISPLACEMENT OF THE BONE, ACCOMPANIED BY SOME DISTURBANCE SUCH AS IRREGULARITY and TENDERNESS. Irregularity alone does not constitute a lesion, but irregularity with tenderness or disturbance of the function of the joint or viscus innervated by the nerve in relation with the joint, constitutes a lesion.



FIG. 40—Posterior curvature of lumbar region. (From photo of author's case.)

A lesion of the lower dorsal vertebrae (the 10th, 11th and 12th) may cause pelvic disease by affecting the deep origin of the pudic, sciatic, or in fact all the lumbar and the majority of the sacral nerves. The segments of the cord from which the pudic nerve arises, are on a level with the 12th dorsal and 1st lumbar vertebrae. The spinal cord terminates at the upper border of the second lumbar vertebra. The origin of all the sacral and lumbar nerves must be above this point, thus a lesion above this point, that is in the lower dorsal region, may affect the nerves going to the uterus, ovaries, rectum, etc. Then arises the question how a lesion, or what we call a subluxation of the vertebra, or curvature would affect the deep or high origin of these nerves. FIRST, the bone may cause a direct pressure on the nerve trunk, but in such cases there is usually a complete displacement of the vertebra coupled with paralysis, which condition is rare compared with the partial displacements. A better explanation is that the GANGLIA on the posterior nerve roots which are in the foramina, are impinged upon, BY THE ARTICULAR PROCESSES, they being in direct relation. Also the BLOOD SUPPLY to the nerve cells is, in a like manner, affected, hence the chronic disturbances, without complete paralysis, which would follow continued pressure on a nerve. SECOND, it may affect the NUTRITION of the cord or the blood supply to a segment of the cord. The blood is returned by veins which empty into the intercostal and lumbar veins, which also drain the muscles of the back in that region. A subluxation of the vertebra, however slight, will affect the blood stream and a disturbance must follow. A contracture of the back muscles, causes a stagnation of the blood in the muscles and from this follows a venous congestion of the corresponding part of the spinal cord.

The **nerves** usually affected are the pudic, sacral and the

rami communicantes. In the case of the pudic nerve, a lesion at the lower dorsal may cause inhibition or stimulation, that is a loss of sexual vigor or increased passion, or nymphomania. The pudic nerve innervates almost the entire pelvic floor. The TONICITY of the floor to a great degree depends on the integrity and healthy action of this nerve. The POSITION of the uterus depends to a marked extent upon the amount of tone in the pelvic floor. From the above a conclusion can be drawn in reference to the relation of the pudic nerve to the pelvic floor and uterine lesions.

An interference with the SACRAL nerves also causes a disturbance of the pelvic floor, uterus and rectum, since the distribution of these nerves is to these parts. The RAMI COMMUNICANTES, are also impinged upon by a luxated vertebra, which if in the lower thoracic region, produces a disturbance of the lesser and least splanchnics. A disturbance of the least splanchnic causes a change in the renal plexus. From this plexus is derived the ovarian plexus, thus OVARIAN trouble and uterine disease may follow as a result of such a lesion.

A subluxation of the 11th or 12th rib, and by the way such a lesion is common, may affect the gangliated cord, or as in the case of vertebral lesions, the rami, which send branches to the renal plexus from which is derived, in part, the ovarian plexus. The gangliated cord is very near to, while the RAMI CROSS THE HEADS OF THE RIBS, AND HOWEVER SLIGHT THE RIB LESION the nerve will be affected thereby.

As to the way the nerves are affected, it depends on the displaced bone whether it presses directly or indirectly on the nerves or blood vessels. There may be paralysis, pain, or simply an impairment of the function. The most common sequelæ of these lesions are, ovarian colic, inflammation, atrophy or enlarge-



FIG. 41—Anterior curvature of thoracic region. (From photo of author's case).

ment of the ovary. These diseased conditions of the ovary result in painful menstruation, amenorrhea or menorrhagia. The effect on the diaphragm and its relations to the pelvic organs might be discussed, but I will only mention the fact that when these ribs are displaced the position of the diaphragm is changed and the return flow of blood affected.

A lesion of the LUMBAR VERTEBRAE may affect the GANGLIATED cord which lies on the bodies of the vertebrae; it may affect the RAMI COMMUNICANTES or the LUMBAR NERVES which go to make up the lumbar plexus and the lumbo-sacral cord. The lumbar gangliated cord sends branches to the AORTIC and INFERIOR MESENTERIC plexuses, also to the inferior vena cava. The ovarian, derived from the aortic, and renal, supplies the ovaries, tubes and uterus. The inferior mesenteric, sends branches to the left or descending colon, the sigmoid colon and the rectum, on which account a lesion of the lumbar vertebrae may produce ovarian, tubal, uterine or bowel trouble. It is a well known fact that constipation often complicates uterine disease. One reason is that the nerve supply is practically from the same source and a lesion of the lumbar vertebrae will produce both.

Dr. Still once remarked to me that young girls in school, in bending over desks and sitting in that position for several hours every day, are often affected with a condition of kyphosis which weakens the pelvic organs, bringing on backache, menstrual irregularities and leucorrhea, since, from the changed relation of the lumbar vertebrae, the above mentioned nerves are affected.

The hypogastric plexus is located on the promontory of the sacrum, hence a lesion of the 5th lumbar will usually affect this plexus, and from this pelvic disorders arise.

The CENTERS FOR THE UTERUS, especially for the longitudinal



FIG. 42—Straight spine, (From photo of author's case).

fibers, are located in the lumbar enlargement of the cord. These centers may be affected by a lesion of the upper lumbar vertebrae. The effect is usually one of weakening of the expulsive forces of the uterus, hence menstrual disturbances, such as cramping, follow.

The above principle is exemplified in after-pains in labor cases; they being due to insufficient contraction of the longitudinal muscle fibers.

A lesion at the 1st and 2nd lumbar vertebrae might affect the ILIO-INGUINAL and GENITO-CRURAL nerves, since they make their exit at the 1st and 2nd lumbar foramina. This would result in pain in the iliac fossae, loss of tone in the abdominal muscles and round ligaments, as the ilio-inguinal and ilio-hypogastric supply the abdominal wall, and the genito-crural the round ligaments. From a weakening of these structures comes a weakening of the supports of the uterus, and with this a tendency to displacements, especially retro-deviation and prolapsus.

The **lesions of the sacrum**, while often overlooked and their importance underestimated, are, notwithstanding, important factors in connection with pelvic diseases. The sacrum supports the weight of the body. Through it every jar is communicated to the spinal column which is supported by it, and on account of its position, being wedged in between the two innominate bones, it is subject to a great deal of strain. On account of its obliquity it is subject to DISPLACEMENTS of various degrees; the most common of these is a ROTATION, the upper part being thrown forward and downward, the lower part backward and upward.

The STRUCTURES lying in relation with the sacrum are the ROOTS OF THE SACRAL PLEXUS with most of its branches, the hypogastric plexus with its immediate connection, and certain ligaments, the most important of which are the utero-sacral

ligaments. These roots forming the sacral plexus, lie in relation with and are bound down to the sacro-iliac articulation, hence the uterine diseases and the various disturbances of the sciatic nerve which follow a twist or subluxation of either the sacrum or innominate.

The UTERO-SACRAL LIGAMENTS have to do with holding the lower part of the uterus in position, and are placed in an oblique almost vertical position, when the patient is erect. Disturbances of the uterus as to its position follow, when these ligaments are abnormally relaxed or put on a tension as they would necessarily be in abnormal positions of the sacrum.

Of all the bony lesions associated with pelvic disease, a dislocated INNOMINATE is the most common. Whether the case be one of menorrhagia or metritis, the innominates should be examined for some deviation from normal. This deviation is usually a backward slip as is evidenced by irregularity and prominence of the posterior spines of the ilium and tenderness at the synchondrosis. The length of the limb is usually shortened if only a rotation is present, but since some other displacement often accompanies a rotation, the length of the limb is not a very reliable indication by which to diagnose the character of the innominate lesion. However, the question before us is "how does a slipped innominate cause pelvic disease?"

The ROOTS OF THE SACRAL plexus, as stated before, are in relation with and ARE BOUND TO THE ILIO-SACRAL ARTICULATION, hence **any deviation** at this point, however slight, **will** affect the sacral nerves. It is a well known fact that sciatica and other limb troubles, are often associated with pelvic diseases. This is explained by the above. The sacral nerves are especially distributed to the cervix and are important factors in expulsion of the contents of the uterus. By an IRRITATION of these nerves,

the os is constricted and menstruation made painful. By an INHIBITION, the os remains patulous and menorrhagia is often found. THIS LESION OFTEN DESTROYS THE HARMONY EXISTING BETWEEN THE CEREBRO-SPINAL AND SYMPATHETIC SYSTEMS. Whether expulsion is interfered with by an obstruction, or by an insufficient contraction of the longitudinal muscle fibers, THE RHYTHM IS DESTROYED and disturbance of function follows. To me this is a very important point. Again, the intimate connection existing between the sacral plexus and the sympathetic gangliated cord will also help in explaining the relation between the cause and effect. The white rami, and some say the gray, connect the roots of the sacral plexus with the sympathetic chain; this chain also gives off branches which go direct to the inferior hypogastric plexus, thus there is a direct connection between the two.

By a subluxation of the innominate bone, certain muscles, especially the iliacus and levator ani, would be put on a tension or relaxed and, since they are in relation with the pelvic structures, derangements would follow. The broad ligaments are attached to the sides of the innominate bones. On account of their connection with the uterus and the relation to the vessels and nerves which supply it, a twisting, increased tension or relaxation, will materially affect the amount of blood passing to and from the uterus. The displacement of the innominate bones will AFFECT ALL TISSUES attached to them; this will in turn affect all neighboring structures and organs. On this account the PUDIC NERVE is liable to be affected, at or near the place at which it crosses the spine of the ischium.

A displacement of **the coccyx** often causes disease by putting muscles on a strain, by affecting the GANGLION IMPAR, or by pressure on neighboring structures or organs. Hemorrhoids

often result from a displaced coccyx. PRURITUS ANI or itching piles are often found. In such cases there are often found sexual derangements, the most common of which is a form of nymphomania.

OUR CONCLUSION is that very particular attention should be paid the bony framework, since a derangement of it forms the basis of nearly all female diseases, especially the chronic types. One of the fundamental principles of osteopathy is based on the condition of the framework of the human body, and constitutes the point of greatest difference between it and the various pathies.

If any of these lesions mentioned are found in a case of inflammation of the uterus, all the topical applications known will not cure, although they may temporarily relieve, until the abnormality is corrected. The exciting causes of uterine diseases act with difficulty if the bony framework is perfectly adjusted. The secretions will be normal, the circulation good, the lymphatics will act properly and the position of the uterus will not become pathological. The old dictum that the BLOOD IS THE LIFE is of more importance to the osteopath than to any other class of practitioners. The blood is both food and air to the tissues, and also acts as a scavenger. It carries nutrition and takes away the deleterious products. The blood, to fulfil its function or purpose, must be MOVING. It cannot CARRY nutrition or TAKE AWAY deleterious products IF IT DOES NOT MOVE, and that quite rapidly.

There are several factors or forces besides that of the heart concerned in the propulsion of the blood through its circuit. PRESSURE, exerted by contraction of organs or tissues, forces the blood into the veins and the arterial blood rushes in to fill the vessels thus emptied. The veins, having valves, allow the blood to be forced in only one direction, that is toward the heart.

THIS PRESSURE, to be effective, must **be intermittent**. Standing on the feet, in which the pressure is constant, produces fatigue. FATIGUE IS DUE TO IMPOVERISHED BLOOD; impoverished blood is due to a stoppage or LESSENING OF RAPIDITY OF BLOOD CURRENT IN SOME PART OF THE BODY. In ordinary fatigue from muscular exercise, the STOPPAGE IS IN THE VEINS OF THE MUSCLES. Exercise, if not excessively indulged in, by which the muscles contract intermittently, is an aid to the circulation.

BONY LESIONS PRODUCE CONTRACTURE OR RELAXATION OF MUSCLES. Either disturbs the function and destroys the intermittent pressure which, as stated above, is of assistance in the circulation of the blood. This furnishes another reason why lesions produce disease.

It might be mentioned in this connection that respiration, which is the result of a rhythmical contraction of the muscles concerned in the respiratory function, exerts a wonderful influence on the pelvic circulation. Deep rhythmical breathing tends to force the blood more rapidly through the uterus than shallow, irregular respiration. In fact, the latter results in uterine congestion and is the cause in some cases, of the uterine disease. In summing up the various causes of female disease we are forced to the conclusion that a perfect CIRCULATION THROUGH THE PELVIC VISCERA IS NECESSARY to the perfect functioning of those parts, and that ANY LESION OR OTHER PATHOLOGICAL CONDITION interfering with this, PREDISPOSES TO DISEASE of the pelvic viscera. If the BLOOD IS PURE and CIRCULATES NORMALLY through the uterus, there is little or no danger of it becoming diseased.

EXCITING CAUSES. Childbirth is one of the most important of the exciting causes of disease, especially if laceration has taken place and has not healed. Tears of the vagina or perineum lay the foundation for prolapsus of both vagina and uterus.

Laceration of the perineal body weakens the keystone of the pelvic floor, impairing its function to such a degree that it is impossible for the two vaginal walls to be held in apposition. This is made the more likely on account of the increased size of the fetal head from civilization and education.

LACERATION of the CERVIX, which is usually the result of administration of ergot or quinine causing too rapid delivery, prevents proper involution after delivery. From this follows a CONGESTIVE HYPERTROPHY accompanied by a hypersecretion or leucorrhea, also displacements with their accompanying aches and reflex pains. I am glad to say that the OSTEOPATH, IN ORDINARY CASES, PREVENTS THESE LACERATIONS FROM TAKING place, thereby preventing an inestimable amount of disease. Many cases of neurasthenia and hysteria result from a lacerated cervix, which has not healed and keeps the parts irritated, causing a constant loss of nerve force.

It is sufficient at present to call attention to the fact that the cervix is covered with ERECTILE TISSUE and is therefore supplied with a great many blood vessels, which are enclosed in a network of nerves from the sympathetic system.

Too early rising after confinement, before the uterus has contracted sufficiently often causes enlargement and displacement of the organ. Again, if the patient remains in the dorsal position too long after confinement, retroversion will usually result, all of which tend to increase the amount of blood in the uterus. This in turn, affects the nerves in relation.

Labor predisposes to female disease, in that lesions, especially of the spine and pelvis often result from it. The position of the patient, the fearful straining, especially in hard cases, ALL TEND TO DISPLACE the vertebrae, innominata, hips, sacrum or coccyx. This results in a weakening of the pelvic viscera, as

previously noted. Such lesions, especially of the innominate bones, occur quite easily on account of the increased mobility of the sacro-iliac synchondrosis during pregnancy, the patient often complaining of a "catch" in the hip, sometimes severe enough to cause her to fall. This is due to a slight slip in the sacro-iliac joint. Milk leg is the occasional sequel of such a lesion, and in many cases the hip is also involved.

A PENDULOUS ABDOMEN is a common sequel to labor and predisposes to pelvic disease by producing ENTEROPTOSIS, which condition interferes with the normal circulation through the pelvic viscera. The intestines are forced into the pelvis and congestion, with its so-called catarrh or leucorrhea is a common effect.

Occasionally an OVARY IS CAUGHT between the fetal head and the brim of the pelvis and there bruised or lacerated. An ovarian abscess often follows such an injury; at least ovaritis is produced.

The proper care of labor cases will prevent a great many female disorders. Prophylaxis is even of greater importance than curative measures that are not applied until after the disease is under headway.

GYNECOLOGICAL TREATMENT. The practice of introducing an instrument into the uterine cavity to correct a displacement is sometimes the cause of inflammatory conditions of the uterus. The ENDOMETRIUM is a VERY DELICATE membrane and although a dull sound is used, the chances are that this membrane will be injured. The practice of curetting the uterus, as is ordinarily performed by the regular physician, is to be more severely condemned. Unless polypi or cancerous growths are present, curetting is contraindicated, because it leaves a raw, bleeding surface which results in inflammation or perhaps in-

fection and even in the above mentioned cases is rarely indicated.

All intra-uterine treatments with sounds, curettes, tents, dilators and pessaries are fraught with danger on account of the absorptive qualities of the uterine lymphatics. Nearly all intra-vaginal treatments in which instruments are used, are injurious. I have examined cases in which pessaries were found embedded in the tissues of the vagina, having been there several months. The practice of using pessaries irritates the mucous membrane and keeps it inflamed, preventing nature from healing the part.

DOUCHES, if indulged in for any length of time, are the cause of disease. The author has noted case after case in which douches had been used and in every one, found the fornices distended, thus forming QUITE A CAVITY around the cervix. This induces uterine displacement, particularly retroversion and prolapsus. CAUSTICS applied to the cervix in the treatment of certain forms of disease are injurious and tend to prolong the existing disease. ASTRINGENTS have also been advised but their use is not indicated except in severe cases of metrorrhagia. Such applications used for any length of time destroy the function of the mucous glands lining the vagina. As a result the walls become dry, and become covered with wrinkles or folds. A local digital examination is hard to make in such cases and the sexual function is impaired, or more often, destroyed. In other cases the condition of the mucous membrane of the vagina is a very reliable index to the condition of the sexual organs. FREQUENT LOCAL TREATMENT as ordinarily practiced is an exciting cause of disease. They should not be given more often than once a week, except in very unusual cases. Often the nervous shock counteracts the good they do.

GONORRHEA. LATENT or chronic **gonorrhea** is a cause of many of the various forms of uterine, tubal and ovarian dis

ease, especially of the inflammatory and suppurative types. The inflammation extends from the vagina through the uterus to the Fallopian tubes, peritoneal cavity and ovaries. This results in a chronic type of inflammation characterized by the formation of adhesions. It manifests itself by a general weakness, back-ache, leucorrhea, sterility, chronic **soreness** over the **tubes** and **ovaries**, the result of the chronic inflammation, and by **DISCHARGE OF PUS** in the more pronounced cases. Byron Robinson states that "gonorrhea is the essential element in a vast majority of intra-pelvic suppuration." This is true of most chronic discharges. He also states that "the disease (referring to latent gonorrhea) is incurable;" that the "acquired gonococcus is never wholly eradicated from the pockets, recesses and folds of the genito-urinary tract, that the gonorrheal germ simply reproduces itself in undisturbed locations." Perhaps the above is an exaggeration, yet the frequency of such conditions is astonishing. The author regards it of so much importance that a **MICROSCOPICAL EXAMINATION** is advised in all cases of chronic discharge from the genitalia, especially if the case does not readily respond to the ordinary treatment. In some, the discharge is so strongly acid that the gonococci are hard to recognize on account of disintegration. In such cases repeated examinations are necessary. In doubtful cases an examination of the husband will clear up the diagnosis. The indications of latent gonorrhea in the husband are: an occasional mucous discharge, disturbances of micturition, prostatitis, tenderness along the posterior urethra and history of an attack of specific urethritis some years prior. If the urethritis once passes beyond the triangular ligament into the prostatic and membranous portions of the urethra, a complete cure is almost impossible and many a case of ovarian, tubal and uterine disease is caused by such.

EXPOSURE DURING MENSTRUATION is a very common exciting cause of uterine disease. This occurs very frequently in society people, they refusing to give up the pleasure of the ball room even for a few nights during the month. I have seen many cases of menstrual disorders which could be traced back to dancing during the menstrual period; getting warm and cooling off too suddenly. I have known of many cases in which the patient sat in a cold class room when she was menstruating, and as a result the flow stopped, inflammation of the uterus developed and the patient was confined to her bed for weeks. The cessation of the flow from exposure is often the starting point of various female disorders, such as vicarious menstruation, dysmenorrhea, amenorrhea, flooding at the monthly periods, and all forms of inflammatory disturbances of the pelvic peritoneum and the internal generative organs, especially acute inflammation of the uterus. Special care then should be taken of one's self at this time because exposure usually results in the stopping of the flow, which is detrimental to the organism by causing, not only local inflammations, but systemic diseases from retention of the discharge.

The old Mosaic law that a menstruating woman should be put apart seven days, (that is, rest that length of time) is a good one, and if it were followed a little more closely at the present time, much suffering could be avoided since any exposure or overwork at one period, causes a disturbance of the next.

TRAUMATISM. The osteopath traces a great many troubles to falls, strains and injuries of the back. A FALL BACKWARD, if the bladder is distended, usually results in a RETRO-DISPLACEMENT of the uterus, especially if the ligaments are weak. Unless this is corrected within a short time, the patient becomes a chronic invalid, or at least has chronic uterine trouble.

Lifting a heavy weight will often strain the lower part of the back, which causes a subluxation of the vertebrae in relation, thus impairing the nerve supply to and from the uterus. This, like the above, usually causes uterine displacements by the sudden change or increase of intra-abdominal pressure. Reaching upward, while in a strained position, or the carrying of platters, as do waitresses in hotels, is a common exciting cause of female disease; the ovaries and tubes being most frequently affected.

METHOD OF EXAMINATION.

SUBJECTIVE EXAMINATION. When a patient comes into your private office for examination, there should be some SYSTEM OR REGULARITY followed in the examination, otherwise some important points may be overlooked. In the examination there should be REGARD for the PATIENT'S FEELINGS, and it ought to be restricted to that which is absolutely necessary.

In the first place a number of points should be ascertained; the AGE of the patient; whether MARRIED OR SINGLE; LENGTH of standing of the disease; and if she has borne children, the character of the LABOR, whether FORCEPS or other artificial means were used. The next question amounts to this—have you any PAIN OR TENDERNESS of any part? Where do you ache? When is the ACHE worst. Does standing on the feet make it worse? Under what conditions is the ache worst? Sometimes it is well to ask the patient WHAT THE MATTER IS. If there is pain try to get her to locate it for you; try to get some measure of its severity, when it occurs and length of time it lasts. Try to ascertain the ONSET of the pain or disease, whether it came on suddenly or gradually. Very frequently the patient will tell you that it commenced when she lifted a tub of water or when reaching for some article on a high shelf. Ask the patient if she sleeps well; insomnia being a common complication of uterine disease. Ask whether or not she suffers from headaches and in WHAT PART OF THE HEAD the pain is located; and whether or not she is more nervous than she used to be. Ask as to the menses; the date of their commencement, their regularity or irregularity, the quantity, if

there is pain, and when the pain occurs in relation to the flow. NORMAL MENSTRUATION IS PRECEDED AND ACCOMPANIED ONLY BY A FEELING OF WEIGHT IN BACK AND PELVIS. "MENSTRUAL PAIN IS ALWAYS A SIGN OF DISEASE." If PAIN PRECEDES THE FLOW it is probably ovarian in origin. If the flow relieves the pain an OBSTRUCTION should be thought of; while in cases in which pain continues after the flow starts, INFLAMMATION of the endometrium is probably the condition.

If amenorrhea exists, ascertain when the menses ceased, and the supposed cause. If molimina exist the amenorrhea is pathological; if not, physiological. Pregnancy should be borne in mind in all cases of amenorrhea.

Ask about MICTURITION, whether it is painful or too frequent; whether or not there is a vaginal discharge. If there is, ascertain if possible its CHARACTER. AMOUNT and LENGTH of standing. ANY DISCHARGE IS ABNORMAL. The thinner and more glairy, the less important; the thicker and more purulent points to marked disease conditions. Inquire about the bowels, whether there is pain in defecation; if there is constipation or hemorrhoids. The OCCUPATION of the patient should be ascertained since many forms of disease can be rightfully attributed, directly or indirectly, to it. If a patient stands on the feet a great deal, lifts heavy loads or does overhead work, displacements, congestion, leucorrhea and tubal diseases are suggested.

The MARITAL and SEXUAL HISTORY is of importance in some cases. In addition to inquiring about normal pregnancies, character of labor, etc., ascertain if the patient has ever aborted, the date, cause and result; whether or not diseased conditions, such as metritis, followed. Sometimes it is important to know whether intercourse is painful or distasteful to the patient. Perhaps there is lack of orgasm, which is quite common; or there



FIG. 43.—Lateral curvature of spine. (From photo of author's case.)

is a sexual perversion. The patient will usually drop a hint if such conditions exist; if they do you can follow it up with leading questions. Although the osteopathic physician depends very little on the subjective method of examination, it is probably a good plan to let the patients describe their own cases; which they usually do with a little assistance.

EXAMINATION OF THE ABDOMEN. In order to make a satisfactory examination of the abdomen all clothing over the part should be removed, the woman then placed in the dorsal position. By **INSPECTION** the general size and contour of the abdomen and the presence of dilated veins or *lineæ albicantes* can be ascertained. The *LINEÆ ALBICANTES* indicate that the patient's abdominal wall has been stretched beyond the normal tension and are not diagnostic of a former pregnancy, since they occur in tumors, ascites, etc. Fresh lines are glistening and pearly, old ones scarred and white.

The **UMBILICUS** should be concave with flattening of the abdomen around it. If the abdominal cavity is distended from gas or ascites, the umbilicus becomes flattened or even slightly bulged. The enlargement produced by fat is different from that produced by ascites or fibroid tumors. Tumors or enlarged organs produce a fullness which is most pronounced in the neighborhood of their origin. Cause the patient to breathe deeply and **NOTE** whether or not the **TUMOR MOVES** and whether or not the **SKIN BECOMES IRREGULAR**. Move the patient into different positions in order that it may be ascertained if tumor changes. A change of contour takes place in ascites and in large cysts. Examine for **SCARS** resulting from operations, since laparotomy for various purposes, is such a common operation. Be on the lookout for evidences of such an operation since the prognosis may be materially changed by it.

Palpation of the abdomen is the most important form of examination. At first the physician should secure the patient's confidence and, after the hands are warmed, proceed with both hands to gently and slowly externally palpate the abdominal and pelvic organs. The patient being in the dorsal position, the LIMBS SHOULD BE flexed on the abdomen in order to relax the abdominal muscles. At first the pressure should be light, then gradually increased until the deeper structures are reached. Note tone, fluctuation, irregularities, displacement of parts, and tenderness, all of which are necessary to differentiate between tumors, fecal impaction, exudates, enlargement or distention of organs, displacement of viscera, etc. A CONTRACTURED CONDITION OF THE ABDOMINAL WALLS IS SUGGESTIVE OF SOME IRRITATIVE DISEASE OF THE VISCERA, COVERED BY IT. Hilton explained such conditions by the assumption that the NERVE SUPPLY OF A VISCUS and ITS COVERINGS COMES FROM THE SAME SOURCE. A hard, unyielding abdominal wall is symptomatic of PERITONITIS, acute, if fever and tenderness exist; chronic peritonitis with adhesions, if there is neither fever nor tenderness. A tightening of the tissues beneath the wall should be noted and carefully palpated, since such are indicative of adhesions. PERITONEAL adhesions, whether from an operation or inflammation from other causes, can often be diagnosed in this way.

If tenderness is found, ascertain what organ is affected, whether the uterus or its appendages. Tenderness immediately above the pubic bones indicates cystitis, congestion or inflammation of the uterus; tenderness on either side of the median line below the umbilicus, disease of the Fallopian tubes or ovaries. Soreness on either side of the umbilicus indicates, if deeply seated, an enlargement of the lymphatic glands which drain the uterus. This is indicative of uterine inflammation. In such cases a soft



FIG. 44.—Twisted pelvis, slightly exaggerated. (From photo of author's case.)

tumor varying in size from that of a marble to a walnut is found at this point.

In diseased conditions of the uterus, pulsation or throbbing of the arteries in the neighborhood of the uterus is frequently found. In case of ovarian trouble this pulse is found along the course of the iliac arteries. If this THROBBING is found in the neighborhood of the UMBILICUS or immediately above, it indicates some intestinal trouble. If found at the PIT of the stomach it is a symptom of gastric trouble, usually catarrh. This throbbing becomes very painful at times, even preventing sleep by its constant, annoying, hard pulsation. I have seen cases in which the bed was shaken by this throbbing at each heart beat. It is supposed to be caused by a local constriction of the artery due to vaso-motor irritation.

Care should be taken in palpating just below the umbilicus not to MISTAKE THE BODY OF THE FIFTH LUMBAR FOR AN ANEURISM. Patients will come with a supposed aneurism of the iliac artery, there being found a localized tumor with pulsation. This is particularly true of thin patients. The tumor is the body of the fifth lumbar; the pulsation the result of pressure on the iliac artery. Sometimes tumors are found, either uterine or ovarian, which are mistaken for impaction or vice versa; the character of the enlargement indicating which it is. If the TUMOR IS IRREGULAR and nearly round or globular it points to a fibroid tumor; if oblong and there is a history of constipation and reflex gastric disturbances, it points to an impaction of the colon.

Another test for determining whether the tumor is of abdominal or pelvic origin is made by ATTEMPTING TO PASS THE HAND DOWNWARD JUST ABOVE the SYMPHYSIS pubis. If the tumor is PELVIC and rising into the abdominal cavity, the hand CAN NOT BE PRESSED BELOW the tumor; but if abdominal, it CAN BE

SUNKEN INTO THE PELVIC CAVITY below the tumor. Some mention the presence of intermittent contractions in fibroid tumors; these contractions can be felt in some soft fibroids, not in all.

The **temperature** of the abdominal wall should be noted. A cold or clammy condition of the abdominal wall is indicative of a lowered vitality of the parts covered by it. Some form of uterine disease is usually present in such cases. If it occurs in the region of, or follows the course of a nerve trunk, it can safely be attributed to a lesion of the rib or vertebra in relation. The "Old Doctor" says in reference to a general coldness of the abdomen that "THE OMENTUM IS DISPLACED." When we consider the position and form of this peculiar apron-shaped structure, such a thing seems very reasonable. In dissections made by the author the omentum was found to be displaced or diseased in many subjects, and in all in which uterine disease had existed. A hot, dry abdominal wall suggests peritonitis especially so if the integument is reddened. Dryness of the skin often accompanies kidney disease and is suggestive of uremic disturbances. In such cases there is a pasty complexion, loss of strength and dysmenorrhea.

By **PERCUSSION** is ascertained the solidity of the enlargement. In ascites the percussion note is changed with different positions of the patient. If the patient is placed on the back, dullness is elicited by percussion on the sides, while in the median line the percussion note is flat or tympanitic. If the abdomen is swollen and tympanitic, it is due to gas in the bowels; or if it is also tender, to peritonitis, which most often follows a sudden cessation of the menses.

Sometimes **AUSCULTATION** is used in cases of suspected aneurism and in some other abdominal enlargements. In an aneurism a **BRUIT** is heard almost synchronous with the heart beat.

Vascular murmurs or SOUFLES may also be heard over large uterine tumors and the gravid uterus. FETAL heart sounds are detected as early as the fourth month of pregnancy and are compared to the ticking of a watch beneath a pillow. FRICTION sounds are sometimes detected in chronic peritonitis.

EXAMINATION OF THE VULVA. It is seldom necessary to use inspection of the vulva in the examination of gynecological cases. A routine practice of such an examination is to be condemned unless there are indications, and good ones at that, of vulvar disease. On the other hand, this form of examination affords information as to the CLEANLINESS of the patient, ELONGATION or HYPERTROPHY of the LABIA, size of the clitoris or ADHERED PREPUCE, VAGINAL DISCHARGES, and the ANOMALIES of the HYMEN or its remains, which things are important in many cases. As a rule INSPECTION of the external genitals SHOULD BE made when there is PAIN, SORENESS, PRURITUS or SWELLING; in the young when MASTURBATION is suspected, since it affords the best evidence. When the patient speaks of something having "DROPPED DOWN," which term is used by the laity to describe procidentia, inspection is indicated. The patient should be placed in the dorsal position with the limbs flexed and separated. It is best to use an endoscope with a small electric light, or better still reflected sunlight by means of a mirror held directly in the sunshine. By these means the parts can be thoroughly inspected with little exposure of, or embarrassment to the patient. HEMORRHOIDS, if present, will be the first abnormal condition noticed. The external forms, which are usually fibrous in character, can be seen as a bunch or protrusion around the anus. The SIZE and CONDITION of the LABIA are next noted; the nymphae being large, red and irritable in cases of masturbation. Separation of the greater lips then reveals the condition of the vulva, whether

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or not there is inflammation, growths, a swollen condition or prolapsus of the walls. By causing the patient to STRAIN, as at stool, the DEGREE OF PROLAPSUS of the vaginal walls is the better ascertained. There may be tears of the perineum and labia produced by parturition. There may be irritable spots causing VAGINISMUS. These localized spots of irritation often result from an imperfectly healed hymen which has been ruptured. Awkward coitus, the use of instruments, astringents or very hot douches frequently injure the vulva, thus setting up an irritation. If the patient is a young girl and masturbation is suspected, the diagnosis can usually be made by examination of the clitoris and lesser lips, they being found irritable and inflamed. The meatus urinarius should be examined for diseased conditions since it often presents a red, angry appearance in many types of uterine disease. In CHRONIC GONORRHEA, it is RED and IRRITABLE and remains thus for many years after a severe attack of gonorrheal urethritis. Occasionally a CARUNCLE is discovered attached to the meatus and is the cause of much local discomfort and inconvenience.

EXAMINATION OF THE VAGINA. VAGINAL EXAMINATION should not be made in GIRLS NEAR THE AGE OF PUBERTY UNLESS, by other methods, you have failed to diagnose and correct the cause of the disease. In the case of unmarried women it should not be attempted, unless the indications for such an examination are very strong. These indications are PERSISTENT BACKACHE at or below the small of the back, HEADACHE, NECKACHE, MENSTRUAL pain, BLADDER DISTURBANCES, HEMORRHOIDS, aching of limbs and constipation. If the above disorders do not yield to external treatments, at least a vaginal examination, should be given. If you have a patient belonging to either class remember that the rectal examination is usual-

ly sufficient, and avoid if possible the vaginal examination. Reed says: "Youth and virginity should always be looked upon as contraindications for such an exploration unless in the presence of counter-balancing reasons: such, for instance, as the presence of all the menstrual phenomena, the flow excepted, suggesting the possible retention of the menstrual fluid; or in the presence of an offensive discharge associated with remote pelvic symptoms; or to investigate the origin of persistent hemorrhage." It is even useless in many of the above cases. The average physician IS TOO PRONE to make such examinations on the slightest provocation, which often do more harm than good.

On the contrary, in the case of a married woman whose symptoms point to a pelvic disease, always make the examination. If the patient has passed the menopause, all symptoms of a pelvic character should be regarded with suspicion, and measures adopted for a thorough examination, especially if hemorrhage has occurred. Examinations should not be made when the patient is menstruating unless there is an acute displacement causing painful reflex troubles; it being disagreeable and sometimes injurious. Always secure the consent of the patient to be examined, or that of an immediate relative or guardian; never making a vaginal examination without it.

POSITIONS. The principal positions used for examining a gynecological patient, are the Sims and dorsal. The other positions used are the erect, GENU-PECTORAL and TRENDLENBERG, that is, with the hips elevated.

In making the examination of a patient in the DORSAL POSITION, the patient should lie with her heels about six inches apart and the knees widely separated. All bands and constrictions around the abdomen should be removed. The bladder and bowel should be evacuated before a vaginal or rectal examina-

tion is attempted. Usually it is not necessary to expose any part in making the digital examination. The dorsal position is used in making the bimanual examination, and in making an

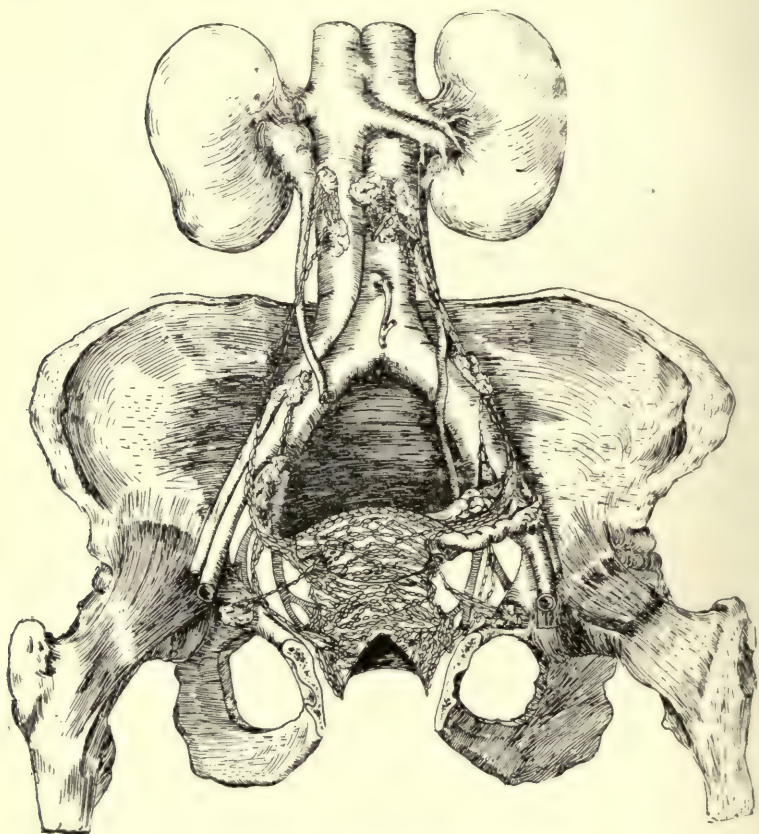


FIG. 45.—Lymphatic glands of lumbar region that drain the uterus.

examination with the bivalve speculum. For the digital examination the Sims position is to be preferred for reasons named below.

In the **Sims position** the patient lies on her left side, half turned over on the front; both limbs are flexed, the right slightly



FIG. 46.—Sims position.

more than the left; the left side of the face rests on the pillow, the left breast touches the table and the left arm is placed behind the body. I prefer this position in examination, first, because a higher exploration of the pelvic cavity can be made; second, by turning the patient into the dorsal position you can make the bimanual examination; third, you have the advantage of both positions without withdrawing the finger; and fourth, the patient's face is turned from you thus relieving her of embarrassment. Backward displacements of the uterus can be corrected at the time of examination with the patient in this position; which is not easily done with the patient in the dorsal position. The Sims speculum, which is probably the best one for ordinary use, is used only in this position.

The **genu-pectoral** position is used principally in treating; that is, in replacing a retro-deviation or introducing a tampon,



FIG. 47.—The genu-pectoral position,

rather than for diagnostic purposes. The patient rests on her knees, upper part of the chest, left side of the face and right fore-arm. The thighs should be perpendicular, the uterus then, if in position, has a tendency to assume the vertical position with the heavy end or fundus down. The tendency of the uterus to assume the perpendicular when the patient is in the genu-pectoral position is an important point in the treatment of all displacements. A great many displacements can be cured by the patient placing herself in this position once or more times a day for some time.

The **erect** position is used in the examination of cases of suspected prolapsus; the degree of prolapsus being better ascertained if it is made in this position. The patient should be on the physician's left with the left foot resting on the round of the stool. The physician should sit on the stool at the patient's left and introduce the index finger of the right hand into the vagina.

The **Trendelenberg** position is seldom used for diagnostic purposes, but is used in operations on the abdomen, in treating



FIG. 48 —Trendelenberg position.

a prolapsed condition of the bowels or antelexion of the uterus. In this position the intestines are drawn off the pelvic organs, and is a position to be recommended in the treatment of all ante-deviations of the uterus.

VAGINAL EXAMINATION. In making the VAGINAL EXAMINATION I make it a practice to place the woman on her left side or in the Sims position for the above mentioned reasons, then turn her over on her back for the performance of the bimanual if it can not satisfactorily be made with her on the side. The index finger of the right hand should be carefully lubricated with glycerine, vaseline or some other suitable lubricant. With the left hand the clothes can be cleared away from the hips so as to make a passage for the examining finger, which is passed onward until it reaches the cleft between the buttocks; the finger is next passed forward over the anus, perineal body and fourchet until the pulp of the finger reaches the vaginal orifice. By doing this the clitoris is avoided, thereby preventing sexual irritation and contraction of the muscles of the perineum. The physician must be careful not to pass the finger into the rectum by mistake. This can be avoided if their axes are remembered, the axis of the vagina being upward and backward; that of the rectum, upward and forward. No FORCE is required to pass the finger into the vagina of a woman whose hymen has been ruptured, whereas some force is necessary to overcome the resistance of the sphincter ani. The finger, now being at the vaginal orifice, should be carried backward and upward along the walls of the vagina until its upper limits are felt. While doing this the physician should NOTE: FIRST, the CONDITION of the PELVIC FLOOR and VAGINAL orifice, if there is loss of tonicity, which makes the vagina patulous, the absence or presence of tender spots which produce a spasm or contraction; SECOND, the WALLS, condition of the RUGAE, whether there is absence or presence of the same; examine for secretions, heat, tumors attached to the walls, for foreign bodies such as pessaries that have been placed there for the purpose of treatment; also

note the length and condition of the walls and the condition of the anterior and posterior fornices.

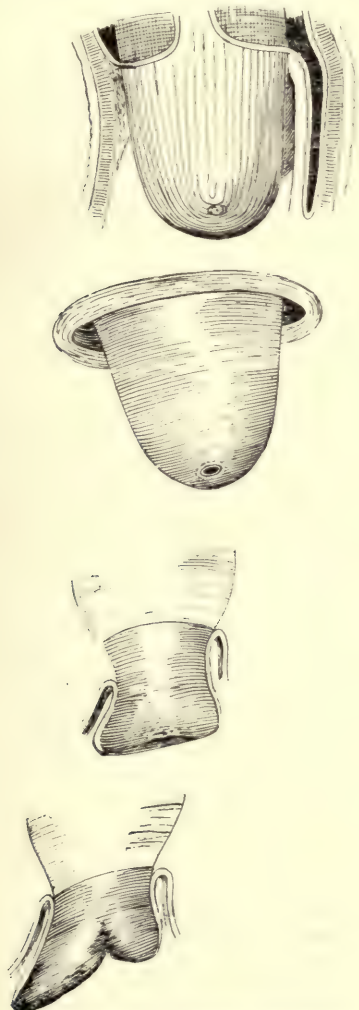


FIG. 49.—Different forms of abnormal cervixes.

THIRD, note the cervix, its size, shape and consistency of the lips, they being of about the CONSISTENCY OF THE END OF THE NOSE if HEALTHY, and about the CONSISTENCY OF THE LIPS if DISEASED or if PREGNANCY exists. The shape of the cervix is conical with a smooth surface. Its size varies, it usually projecting into the vagina about one inch and is about three-quarters of an inch in diameter. As a rule it looks larger than it feels. Examine carefully to ascertain if it is drawn to one side, if fixed or mobile, or if split with cicatrices radiating from it to the vaginal roof. Often in such cases of marked laceration, one lip is bent considerably, resembling in shape a sled runner. If both lips diverge, the name "bell shape" has been applied. The lip on the concave side is elongated in marked flex-

ions. Often in an infantile uterus there is a cervical flexion. If the CERVIX is markedly CONICAL or pointed, it points to underdevelopment, perhaps an INFANTILE UTERUS. If cylindrical and the end appears to be obliquely truncated, an error in development is also indicated, and sterility is the common sequel.

Note the direction of the cervix and its relation to the vaginal walls, because the diagnosis between a version and a flexion depends upon the position of the cervix. The tip of the coccyx can be felt on a level with the end of the cervix. This can best be ascertained with the patient in the dorsal position.

FOURTH, note the OS, its SIZE and SHAPE; it being a dimple in the nullipara, a transverse slit in the multiparous woman. (See Figs. 17 and 18.) The cervix may be slit on one or both sides, thus destroying the os externum and more or less exposing the cervical canal. This permits of a protrusion of the endometrium, such condition receiving the name of ECTROPION. Bodies projecting through the os should be noted, such as polypi, cancerous masses, stem pessaries or fragments of abortion. In the infantile uterus the os is very small; in most cases of subinvolution, it is patulous. The next thing to be noted is the corpus uteri or body. By bringing pressure against the anterior fornix with the examining finger, the uterus can be felt if it is in normal position or ante-deviated. It moves readily with slight pressure; the cervix also changing its position.

The OVARIES AND FALLOPIAN tubes if normal, can be felt with difficulty in a favorable subject. If the patient is large or the abdominal wall tender, they can not be outlined; but in ordinary cases they can be distinguished if congested, inflamed, or displaced. Pressure on a diseased ovary, causes a pain to be referred to the iliac fossa of the corresponding side.

FIFTH, the POSTERIOR FORNIX is concave when felt from below

upward; normally, it has the feeling of the inside of the angle of the mouth. Note whether this cavity is lessened by the presence of adhesions or some foreign body. See if any lump can be felt projecting from the pouch of Douglas. A body felt through the posterior fornix is usually a retro-deviated uterus, but may be a prolapsed ovary, feces or a fibroid tumor attached to the posterior wall of the uterus.

SIXTH, examine the ANTERIOR FORNIX; note its shape, depth, and if any body can be felt through it. If so, it is usually the anteфлекed uterus or a fibroid tumor. This fornix may be impinged upon by retroversion of the uterus, or the cervix and the

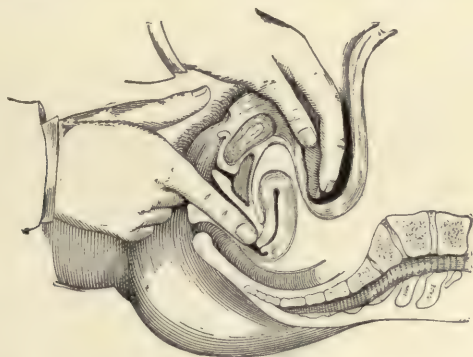


FIG. 50.—The bimanual examination in the dorsal posture. (Byford from Schroeder.)

vaginal wall may have grown together as a result of a vaginitis; this sometimes obliterating both the anterior and posterior fornices.

From this examination we have learned of the TONE and POSITION of the cervix, CONSISTENCY of the vaginal walls and size of the external os, these being only preliminary to the bimanual examination.

BIMANUAL EXAMINATION. The bimanual method is

one of very great importance in the examination of the pelvic contents, and is used very extensively by the osteopath. It consists of palpation of the uterus between the hands, one internal and the other external. This is done in two ways, *per vagina* and *per rectum*. It is performed with the patient in the dorsal

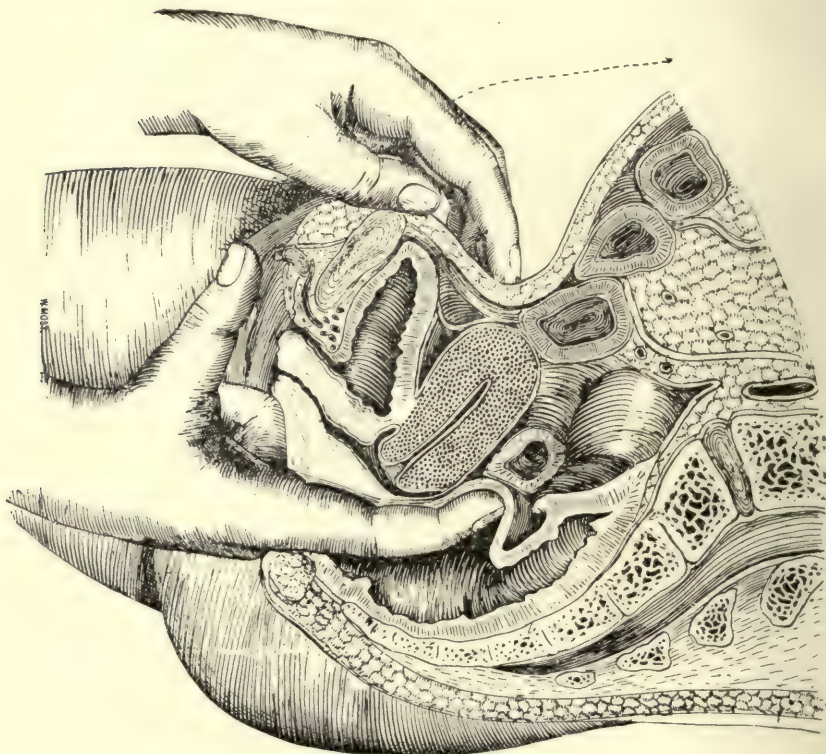


FIG. 51.—Bimanual examination of the uterus per rectum.

or Sims position, preferably the former, with the limbs flexed.

After making a digital examination in the Sims position, if the bimanual can not be satisfactorily made while in that position, turn the patient into the dorsal position without removing

the internal finger. With right index finger (sometimes second finger also) in vagina against the cervix, and the left with the ulnar side superior to the uterus, which prevents retro-displacement, by approximating the two hands, the uterus can be felt as a lump or body between them if it is in normal position, ante-flexed or anteverted; but if it is retro-displaced the tips of the fingers can be distinctly palpated, the tissues alone separating them. Sometimes in cases of anteversion it is hard to reach the cervix, and in order to lengthen the examining finger the remaining fingers of the hand should be tightly flexed, and considerable pressure brought to bear on the perineal body. This causes no pain and by so doing the physician can reach at least one inch further along the cleft between the nates. The external hand should be steadily, not spasmodically, depressed, the pressure being gradually increased until the deep structures can be outlined.

The OBJECT of the bimanual examination is to determine the POSITION, size and SHAPE of the UTERUS, and to recognize any ENLARGEMENT or growth that may be in the pelvis; also to confirm the diagnosis made by external and vaginal examination. The CONDITION OF THE ADNEXA is also ascertained by this method. By pressure with the external hand, the uterus being steadied by the internal finger, the broad ligaments, tubes and ovaries, if at all diseased, can be outlined. In normal cases they can with difficulty be outlined. In order to differentiate between the normal and abnormal, it is necessary to know what is found in a normal case by vaginal and bimanual examinations. The following is a description of the conditions found in a nulliparous married woman on vaginal and bimanual examination: "The ostium vaginae is patulous and admits two fingers; vaginal walls moist, and rugous, with no abnormalities; vaginal portion

of cervix normal in size; os uteri felt like a dimple looking downward and backward. No bodies are felt through the lateral and posterior fornices, which are concave on the vaginal aspect and have the feeling on pressure of the angle of one's mouth. In the anterior fornix a body is felt, which on bimanual examination is discovered to be the uterus lying to the front and not enlarged. The vagina and cervix meet at about a right angle. Bimanual exploration of the posterior fornix reveals nothing distinctly palpable. The PATIENT COMPLAINS OF NO PAIN DURING THE WHOLE EXAMINATION and has no symptoms referable to the pelvis."

In case there is inflammation of the vagina or of the uterus, bimanual examination is difficult and the rectal examination should be substituted. The examination is also difficult in stout nulliparous women in whom the abdominal walls are very thick. AT FIRST, the BIMANUAL method is UNSATISFACTORY, but by perseverance it becomes more satisfactory in recognizing uterine displacements and pelvic growths. It is a very important examination and by practice wonderful accuracy of touch can be acquired.

The OBJECT of these various methods of examination is to ascertain (1) the **amount** of TENDERNESS and **inflammation**; (2) **degree of mobility**, which mobility is determined by the presence and extent of exudates and adhesions; and (3) the **position of the uterus**, which is the least important as compared with the other two.

A TENDER, **inflamed uterus** is ALWAYS **pathological** and needs treatment. An IMMOBILE uterus is usually pathological. If tenderness complicates the loss of mobility it is PATHOLOGICAL IN EVERY case. If, on palpation, no tenderness is found in the uterus, I doubt the advisability of giving local treatments even

though adhesions are present, unless there are pressure symptoms. A DISPLACED UTERUS IS NOT ALWAYS PATHOLOGICAL and replacement should not be attempted unless congestion or inflammation is present, in which case there will be tenderness on palpation. In some cases PRESSURE symptoms accompany the displacement, in which cases the uterus should be replaced.

EXAMINATION WITH THE SPECULUM. The speculum is an instrument so arranged that the two vaginal walls can be separated, bringing the os, cervix, and parts of the vaginal walls into view. There are various kinds of specula which pattern after two forms, the univalve or Sims and the bivalve

The Sims speculum consists of two blades of unequal size running at right angles to a shank which unites them. The smaller blade is used for the examination of nullipara, the larger

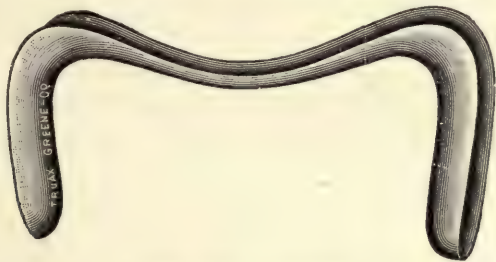


FIG. 52.—Sims speculum.

for examining women with large vaginae, and for operating. It acts as a retractor, pulling the posterior wall from the anterior, thereby admitting air into the vagina, and exposing the upper part of the canal with the cervix and vaginal wall.

To INTRODUCE the speculum, the patient should be in the Sims position, which has been previously described. If the INTROITUS VAGINAE is small, the upper or right buttock and labium should be lifted by the left hand, then the instrument, which has

been previously warmed and oiled, should be taken hold of with the right hand, and the blade, held in line with the vaginal axis, gradually pressed into the vagina, keeping it well back against THE POSTERIOR WALL. To successfully do this remember the AXIS of the vagina; it being toward the hollow of the sacrum, not in the long axis of the body.

The ADVANTAGES of this speculum are, its easy introduction, its simplicity, the freedom from pain in its use, the view it gives of the different parts IN THEIR NORMAL POSITION, especially the anterior vaginal wall, and the advantage it gives for manipulation of the uterus with other instruments if such are used. The DISADVANTAGE is that it is necessary to have an assistant to hold it in order to make a satisfactory examination.

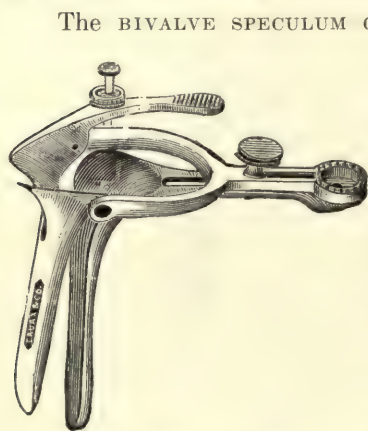


FIG. 53.—Bivalve speculum.

together that they may be separated by pressure on a lever. To introduce the bivalve speculum, the woman should be in the dorsal position with the vulva exposed; the two lips are separated with the left hand, the point of the instrument, after it has been warmed and lubricated, is introduced in nullipara, so as to conform with the external opening, but as

soon as the point enters it should be turned so that the blades become antero-posterior. In multipara it is not necessary to start the speculum in edgewise but introduce directly without turning. The instrument should then be lightly pressed inward, downward and backward until it reaches the cervix. The blades

are then opened and, as soon as the cervix is brought to view, are fixed with a screw. The os and cervix can be seen by the use of this instrument, but they are forced into a distorted position, thus the uterus is so changed that its position can not be accurately diagnosed by the use of this kind of a speculum. There are various forms of these specula which differ in size, manner of separating the blades and the material out of which they are made.

Next comes the question—when should a speculum be used? In my practice I have very little use for a speculum and seldom use it, and the longer I am in practice, the less use I have for instruments in general and specula in particular. If I have a case of erosion of the cervix, of some fungus formation that I cannot differentiate by digital examination from a laceration or cancerous growth, an examination with a speculum is indicated. Sometimes it is used in the introduction of a sound, but I think in most cases that is unnecessary. It is used by some physicians in order to tampon the vagina or introduce a pessary, but these should not be used by the osteopathic physician except in rare cases, hence the speculum is not a necessary instrument even in these cases.

The ENDOSCOPE is used to illuminate the cavity of the vagina when a speculum is used, and is very useful since the patient can be examined in a dark room or at least not in front of a window. It consists of an electric battery connected with a one or more candle power lamp with a contrivance for attachment to the speculum. The use of a MIRROR, by which the sun light can be reflected and focussed directly on the parts exposed, makes the best possible light that can be obtained. The disadvantages are that an assistant and the direct rays of the sun are needed.

I want to condemn the use of the speculum as is ordinarily

practiced by the physician. The exposure and nervous shock, in making the examination do more harm than good, in most cases. Again, the practice of using it from one to six times each week, weakens the vaginal walls, admits air into the uterus, and has a tendency to produce displacements by stretching the vaginal walls and changing the intra-pelvic air pressure.

THE SOUND. The uterine sound consists of smooth nickel or silver plated copper wire, blunt at the point and with corrugated flat handle, as shown in Fig. 54.



FIG 54 —Flexible sound.

It can be bent into various shapes so that it will accommodate itself to the various displacements of the uterus. It is used more for therapeutical than for diagnostic purposes. In diagnosis it is used to ascertain the length of the uterine cavity, the size of the canal, mobility of the uterus and its position in the pelvis. For therapeutical purposes it is used to correct displacements, especially flexions. I think its use is abused in a great many cases. The uterus is lined with a delicate mucous membrane or endometrium and can be readily injured, or the wall punctured by the introduction of any foreign body such as a probe or sound.

If the os is patulous a very blunt steel dilator like the one shown in Fig. 55 should be used if one is used at all, instead of the small flexible sound. As far as its diagnostic use is indicated, the length of the uterus, size of the os, mobility and position may all be ascertained by digital and bimanual examination. As regards its therapeutical use, I sometimes use it in

flexions or acute displacements if I have failed by other methods, while other displacements such as versions and prolapsus can be corrected by the use of the wire uterine repositior or manually.

To INTRODUCE the sound into the uterus, the patient is placed in the latero-prone or Sims position with the thighs well up. The instrument is taken lightly by the handle in the left hand, while the point of the forefinger of the right hand is carried up to the os uteri, which is felt and its direction and the position of the uterus ascertained. This is important to know because a flexion might exist and unless the sound were introduced to correspond to the bend the uterine wall might be injured. The



FIG. 55.—Steel sound.

sound, after it has been warmed and lubricated, is introduced along the finger with the concavity toward the perineal body and the handle directed backward. By following the course of the finger the end of the sound comes in contact with the os uteri, and with a little manipulation enters the cavity of the uterus. It is then carried along the cervical canal and the handle turned with a general sweep so as to bring the concavity anterior instead of posterior, thus corresponding to the uterine canal. It is then gently pushed forward until it reaches the fundus uteri, which is ascertained by a slight sense of resistance that is felt to the onward passage. If the introduction causes very much pain, it indicates that something is wrong and one should withdraw the sound or not introduce it at all. Again, in certain softened states of the uterus, such as metritis and subinvolution, it would be possible to penetrate the wall and still cause very little pain.

Some physicians use a speculum, to aid in the introduction of the sound. By exposing the os uteri by means of a bivalve speculum, the point can be readily introduced into the uterus. The speculum is in the way if the sound has to be turned, and besides it takes a longer time to perform the operation than without it. It has this advantage—the sound can be kept clean so that no infection will be carried into the diseased uterine cavity.

The usual difficulties experienced in passing the sound are caused by stenosis of the canal or displacements of the uterus, such as flexions. If the sound meets with resistance, it should be withdrawn or slightly turned; since the diseased uterine wall may be readily injured and perforated; NEVER USE FORCE IN ITS INTRODUCTION. If the patient is anxious for you to use a sound, be very careful LEST THERE BE PREGNANCY, the introduction usually resulting in abortion. As I said before, its use is contra-indicated in most of the cases and should not be used indiscriminately. The WIRE UTERINE REPOSITOR invented by Dr. Still takes the place of the uterine sound as a therapeutical agent and should be used if possible in preference to the sound.

THE RECTUM. The results obtained by vaginal examination are limited by the fact that the finger cannot be pressed very much higher than the reflection of the vaginal walls which form the fornices; although they can be stretched, the finger is too short to reach very high. This is partly overcome by the pressure of the upper hand in performing the bimanual, but in other cases in which the bimanual is unsatisfactory and it is not practical to make the vaginal, rectal examination is substituted. Schultze says: "To find out some of the anomalous positions of the uterus and their causes, it is often indispensable to palpate high up behind it, and to do so PER VAGINAM is generally impossible; we can reach much farther up on the cervix,

even with one finger in the rectum, than in the vagina. By introducing two fingers up the rectum we can reach across the fundus uteri, to the fingers of the other hand, feeling through the abdominal wall, and make a complete examination of the whole cavity of the pelvis with ease when this is impossible from the vagina." (See Fig. 51.) In the case of virgins, I usually make the rectal examination first, and if that is not satisfactory, and the case does not yield to treatment, I then make the vaginal.

The rectum should be emptied, preferably by the use of an enema. The examiner should be sure the finger nail is not long or rough, the mucous membrane of the rectum being highly sensitive. The finger should be thoroughly lubricated, vaseline being best and most commonly used. The pulp of the finger should then be placed against the external sphincter and there held an instant until the resistance is overcome; then gradually force the finger forward and upward, noting the condition of the walls, the sphincters, mucous membrane, the presence of piles, fissures, ulcers, etc. Next turn the pulp of the examining finger so that it lies on the anterior rectal wall, through which can be felt the cervix. If the uterus is in normal position this is the only part that can be felt through the anterior rectal wall. By feeling on either side of the uterus with pressure on the abdomen, the ovaries, tubes and ligaments can be detected.

The OBJECT of the RECTAL examination is to verify the bimanual examination, to take the place of the vaginal and to locate cause of rectal, as well as uterine disorders. In cases of displacements of the uterus the diagnosis frequently depends upon the rectal examination. In FORWARD DISPLACEMENTS the fundus is NEVER FELT on rectal examination, while in BACKWARD DISPLACEMENTS it is ALWAYS felt. In retro-deviations sometimes rectal treatment is given while in the genu-pectoral posi-

tion in the effort to force the uterus forward into its normal place. In cases of chronic constipation, prolapsus of the bowel or hemorrhoids, I usually make a rectal examination, since the cause of the trouble is frequently best ascertained in this manner. Sometimes the hemorrhoidal condition or ulceration is beyond the reach of the finger when examined in the usual way, that is in the latero-prone position. If, in such cases, the patient is examined while in the SQUATTING POSTURE, one can reach an inch or more higher, and the condition correctly diagnosed. The author has treated cases of this sort. There were constrictions of the bowel, too high to be reached when the patients were examined in the lateral position, but by examining them in the above mentioned way the folds in the bowel were reached and with the assistance of the external hand, by which the bowel was pulled upward, completely removed.

THE BLADDER AND URETHRA. The intimate vascular and nervous connection with, and the proximity of the uterus to, the bladder, result in symptoms of many uterine diseases being referred to the bladder, and in cases in which the bladder is affected, it is sometimes necessary to make an examination of that organ, which is accomplished principally by palpation. Disturbance of micturition, such as PAIN at or just following the completion of the act, INABILITY TO RETAIN the urine or frequent micturition, INVOLUNTARY ESCAPE of urine on coughing or other exertion, feeling of WEIGHT and discomfort over the pubes, **backache** early in the morning BEFORE EVACUATION of the bladder, changes in the urine, such as the presence of pus, triple phosphates or MARKED ACIDITY, and the presence of tenderness just above the symphysis pubis, **indicate** CYSTITIS or some other form of bladder trouble. Such symptoms, primarily indicate, in many cases some form of uterine trouble

especially metritis, the bladder disturbances being secondary. Various instruments have been invented for the purpose of examining the inside of the bladder, but I regard them as useless in most of the cases in which they are used, and in many, positively injurious since INCONTINENCE OF URINE often follows as a result of dilatation of the urethra, which is necessary in instrumental examination of the bladder. The bladder is a closed viscus and should be left severely alone and no instruments introduced, except in cases of CALCULI in the bladder or RETENTION OF URINE, in which latter case a catheter should be used to relieve the distention.

In enlargement of the bladder from retention of urine there exists a rounded tumor above the symphysis, which can be seen as well as palpated. Pressure on it produces a desire to micturate. Percussion aids in diagnosis, a dull note being elicited. Cystocele can also be determined by palpation as well as inspection. Sensitive points in the urethra and often calculi of bladder can be diagnosed by palpation through the anterior vaginal wall. If the calculi are very large the diagnosis is comparatively easy.

In cases of vaginismus or stenosis of the vagina from any cause, copulation may take place in the urethra. The writer saw one case of this kind. The urethra had become so elastic that complete contraction followed the copulative act, and there was no dribbling of urine or other bladder disturbances. A local urethritis is sometimes formed in cases in which a cystitis or acidity of the urine exists. This, along with prolapsus of the urethral mucous membrane, polypi and urethra caruncles which are vascular growths at the meatus urinarius, can be diagnosed by inspection. In such conditions there is marked pain on micturition which is often referred to the urethra, perineum or spine.

EXAMINATION OF THE PELVIS. In making an examination of the pelvis and lower dorsal region, first use inspection. I usually have the patient sit on the edge of the table with her back to me. After raising the garments so as to expose the back, first notice the **median furrow**, its depth, whether flattened, deepened or widened, and its direction. If furrow is deepened it indicates an anterior condition of the spine or an atrophied condition of the erector spinae muscles which form the walls of the median furrow; if flattened or obliterated, a posterior condition; if direction is changed, it indicates a scoliosis or lateral curvature. If the spines are very much posterior, especially in the lumbar region, the skin covering them will be discolored, usually a yellowish brown. This is probably the result of pressure on the spine resulting from the patient leaning against the back of a seat.

In examining the patient in the sitting posture let her sit naturally; that is, do not tell her to sit erect or bend forward, the **WEAK POINTS SHOWING BEST WHILE SHE SITS IN HER NATURAL POSITION**. If the patient does not sit as she ordinarily does, the **STRAINED CONDITION** of the muscles obliterates some of the weak parts. Compare the two innominate bones, notice if one is higher or more prominent than the other, the full side usually indicating the affected or diseased side. (See Fig. 44.) Note the **PROMINENCE** and **CURVE** of the sacrum and the posterior spines of the ilium, also the crease between the buttocks, whether it is straight or deflected to one side; note also the **SIZE** of the buttocks since the condition of the glutei muscles indicates, in a measure, the condition and activity of the genitalia. This is best illustrated in women who have been married a short while, the hips having become broadened and enlarged. Note the **CONCAVITY OF THE WAIST** line, the two sides seldom being alike. The

deeper or more abrupt the curve, the higher the innominate, but if the fossa or curve is shallow and increased in length, that side of the pelvis is lower than the opposite one, or the patient has a lateral spinal curvature to that side. Note the INCLINATION of the sacrum and the effect on the spinal column, whether abnormally curved forward or whether flattened, thus indicating an absence of the normal curve. Now place the patient in the dorsal position; compare the anterior superior spines of the ilia, their height and prominence. Note the LENGTH OF THE LIMBS; it is best not to pull or stretch first one limb then the other, to ascertain their length, but to let the patient lie naturally on the table. SLIGHT SHORTENING in RECENT CASES indicates an INNOMINATE lesion; slight lengthening, hip disturbances; probably a partial dislocation.

PALPATION. In palpating the pelvis, I usually first sit behind the patient, she either sitting or standing. By placing both hands on the crest of the innominate bones, height and prominence can be best ascertained. Ask the patient if she has to pad her dress on one hip or if she notices one side being higher than the other; frequently the patient discovers this in having a dress fitted. The posterior spines should be compared as to their HEIGHT, distance apart and PROMINENCE, also the different parts of the sacrum be outlined. Feel for irregularities at the different articulations, and especially at the sacro-iliac synchondrosis. A KNOTTED OR LUMPY condition can be felt at this point in a great many cases, and is indicative of PELVIC DISEASE and a subluxated innominate. This thickening is probably the result of an enlargement of the lymphatic glands, or of the escape of synovia from the sacro-iliac articulation. Note the condition of the FIFTH LUMBAR, whether displaced or a tenderness exists; either one indicating pelvic trouble. Put some

PRESSURE over the SCIATIC nerve at a point immediately behind the trochanter, it being tender in NEARLY ALL cases of pelvic inflammation.

Now turn the patient to the dorsal position, then by placing the hands on the crests of the ilia, note their height, distance apart of spines, direction and amount of flare of crest and whether or not a tenderness at any point exists. Note where crests would meet if extended. They normally meet, if extended, in the median line about half way between pubes and knees. If they meet to one side a lesion is usually the cause, it being a slight twist or rotation of one innominate or in some cases a twist of the pelvis on the fifth lumbar vertebra. Compare the muscles attached just below the crest; perhaps one side is full, the other shrunken. The full side is more often the diseased one.

Examine the symphysis pubis for irregularities or tenderness, either one indicating a displaced innominate. Turn the patient on her side and examine the lumbar region and especially the lumbo-sacral articulation for displacements and tenderness. I rely a great deal upon the location of the tender spots, they indicating something abnormal; if in a joint, a displacement; if in a muscle, an abnormal contraction or contracture. This is especially true in acute cases and the location of the tenderness is indicative of the organ affected. In chronic cases soreness does not always exist when there is a displacement, hence its absence does not necessarily negate a lesion, but in acute cases it always exists and furnishes the best means for diagnosis.

In connection with the examination of the pelvis, palpate the lower ribs, note their obliquity, the intercostal spaces and points of tenderness, their displacement often causing ovarian or kidney disturbances of some sort. Hystero-epilepsy sometimes results from lesions of these ribs. In palpating the ribs,

it is best to do it while the patient is sitting. The operator, sitting or standing behind the patient, places the hands on the lower ribs and compares the two sides at the same time; deviations being more readily found in this way.

DISEASES OF THE VULVA.

VULVITIS. *Vulvitis* is defined as an inflammation of the vulva, this comprising inflammation of the greater and lesser lips, vestibule, clitoris, or any part of the external genitals. In order to understand vulvitis it is necessary to know what inflammation is, the changes taking place, symptoms and termination.

INFLAMMATION may be DEFINED as an EFFORT ON THE PART OF THE ORGANISM TO RID ITSELF OF SOME TOXIC ELEMENT, or overcome an injury. This toxic element may be introduced from without, such as IRRITATING DISCHARGES or gonorrheal poisoning; or it may arise from within from stagnated blood, which has undergone certain changes. There is congestion, arterial if acute, venous if chronic, which gives rise to HEAT, REDNESS, SWELLING, PAIN and disturbance of function, if the inflammation is a typical one.

In treating inflammation it is necessary to know which of these causes are operating, since upon this depends the cure.

There are various forms of inflammation of the vulva, they being classified according to their severity, and usually divided into simple, gonorrheal, follicular and phlegmonous. In the simplest form we find the catarrhal inflammation, while in cases in which there exists a great deal of toxic matter, it is called the phlegmonous type.

The **cause** of vulvitis may depend upon lack of cleanliness, collection of dirt or smegma; the patient not cleansing herself properly

after menstruation. This foreign or toxic matter gets into the folds of the vulva, first causing irritation and finally resulting in inflammation. More or less exfoliation of the epithelium takes place, leaving the parts raw, while patches of erosion and ulceration occasionally occur. In obese people, the FRICTION of the vulva produced by walking, especially in warm weather, tends to irritate the parts, leaving them in an inflamed state.

Irritating or toxic discharges such as a chronic leucorrhea, a cancerous, gonorrheal, acid vaginal or uterine secretion, and INCONTINENCE of urine are common causes of vulvitis. The source of most of these discharges is a diseased uterus or vagina. Endometritis, ulceration of the cervix, or even simple congestion or catarrh of the above organs produce it. Diabetes and acid urine set up a pruritus which often terminates in an inflammation of the vulva. In children the oxyuris or thread worm may migrate from the rectum, setting up a pruritus which results in the patient scratching the part in her efforts to obtain relief, leaving it red and swollen. From this results chronic pruritus vulvae, or itching of the vulva. Traumatism, such as falls astride a sharp object, blows, rape and awkward coitus, produce vulvitis. On account of the character of the tissues composing the vulva, VULVITIS FROM TRAUMA is hard to cure. In one case treated by the author AN ABSCESS DEVELOPED within a few days from a bruise received from a fall on the sharp corner of a chair.

GONORRHEA is given as a cause of vulvitis in TWO-THIRDS of all cases. This per cent. is high, but not too high for the LOWER CLASSES of people, in which this disease is OFTENEST found. The disease in such people is not properly treated and parts not kept clean. On account of this and the character of secretions, the labia are red and inflamed during the entire course

of the disease. This form of vulvitis is discussed under the head of specific vaginitis.

Sometimes PREGNANCY produces a swelling of the vulva accompanied by a severe itching, which in turn sets up an inflammation, but this is unusual. In PARTURITION, occasionally the vulva is bruised resulting in inflammation, especially in cases in which the external genitals are very small or if instruments are used.

Vulvitis due to friction in walking involves the greater lips; from masturbation, the lesser lips, clitoris and vestibule; from rape or awkward coitus, the hymen, lesser lips, urethra and anterior vaginal walls; from trauma, the greater lips; and from irritants, the OSTIUM VAGINAE and nymphae. LESIONS found as a cause of most cases of vulvitis not specific, are usually a slipped innominate or a subluxated lumbar vertebra; these affecting the vaso-motor nerve supply to the part. The vaso-motor nerves are derived indirectly from the hypogastric plexus and follow the blood vessels to the vulva. This plexus is in relation with the sacro-iliac synchondrosis and is affected whenever the innominates are forced out of place, even though it be slight. If the case is not one of traumatic or specific origin the cause should be sought elsewhere than in the vulva itself. A uterine displacement results in an abnormal acrid discharge and still back of this is the primary cause, the disturbance of the bony framework which encloses the pelvic viscera.

The MENOPAUSE is often accompanied by a "breaking out" on the vulva. This eruption causes an itching which is the only noticeable symptom in most cases.

The **symptoms** of vulvitis are those of inflammation; that is, heat, redness, swelling, pain and disturbance of function; the severity of the symptoms depending on the degree of the

disease. In ACUTE types there is marked heat, the parts are very red and angry in appearance and the pain is constant. In the Milder cases heat is less noticed, the parts are only slightly reddened and pain occurs at irregular intervals. On account of the congested condition, there is a hypersecretion of mucus, which in children is often of a sticky nature and tends to the formation of adhesions, such as an acquired hooding of the clitoris. In other cases pus is discharged, but this occurs to an appreciable extent only in the very marked cases, such as the phlegmonous type. In simple cases the discharge is serous or muco-purulent and is USUALLY ABUNDANT, the amount being determined by the degree of congestion. If it is purulent, various micro-organisms can be found, their presence being a result rather than a cause of the disease. It is accompanied by a certain amount of pruritus of the vulva, especially when the inflammation begins to recede and the secretions to dessicate. Often the habit of masturbation is contracted in relieving the itching, which habit when so formed is very hard to overcome. On the other hand masturbation may cause vulvitis. Montgomery says: "The production of vulvitis in the virgin by masturbation is recognized by finding the smaller labium and the space between it and the hymen covered with small pointed excrescences; the nymphae elongated; the clitoris or its prepuce irritated; swelling of the shallow groove between the orifice of the urethra and the clitoris; clear, abundant secretion from the duct of Bartholin's glands; abnormal sensibility; exaggerated prudery; and distinct hysterical phenomena."

Sometimes there is EDEMA of the vulva in cases of vulvitis, especially if it depends upon pregnancy as the cause. MICTURITION is interfered with, it usually being frequent, painful and imperfect, or the inflammation in its early stages may ENTIRELY

OCCCLUDE THE URETHRAL orifice, resulting in the retention of the urine. The neighboring glands, Bartholin's in particular, are swollen, congested and a hypersecretion is fairly constant. In the **follicular** type the hair bulbs and sebaceous glands are swollen, these being the seat of the disease. The tissue between these hair follicles and glands is apparently healthful, thus giving the diseased area a mottled appearance. These follicles continue to increase in size until they burst, after which they soon shrivel and dry up. During the period in which the enlargement of the follicle is greatest, a drop of pus can be expelled by pressure on it.

The **treatment** depends upon the CAUSE that is found in the individual case. If the inflammation is severe, some emollient application should be used merely as a palliative agency to relieve the heat and burning. The part should be KEPT CLEAN and should be washed with some mild antiseptic solution such as boracic acid solution. If there are bony displacements which are to blame for the trouble, they should be treated. The blood supply should be controlled, if possible, this being done to a certain extent by treatment applied to the lower lumbar region. If there is a mechanical obstruction to the venous return, such as a displaced uterus or prolapsed bowels, this should be corrected. When pregnancy is the cause a cure is not probable until after parturition. If the inflammation is of venereal origin, the application of a rose colored solution of PERMANGANATE OF POTASSIUM is beneficial, sometimes even destroying the gonorrheal germs, it being a germicide. If it is a very bad form of inflammation, the patient should be kept as quiet as possible to prevent friction and irritation of the part, this coupled with the correction of the various lesions found, has yielded nice results in the author's practice.

DISEASE OF BARTHOLIN'S GLANDS. Diseases of Bartholin's glands, especially, those not inflammatory in character, are seldom seen before the age of seventeen or after the age of forty-five, the disturbances therefore occurring during the years in which the SEXUAL FUNCTION IS MOST ACTIVE. Their CAUSES depend upon incidents connected with the SEXUAL FUNCTIONS such as excessive or violent intercourse, masturbation or accidents of pregnancy or labor.

The INFLAMMATORY disturbances of these glands are seldom primary, but occur as complications of vulvitis or vaginitis, especially the gonorrheal variety. In cases in which the glands are temporarily enlarged from congestion, there is a hypersecretion of a glairy fluid and is one of the sources of the discharge in leucorrhea. Their FUNCTION is to secrete a mucus which lubricates the external genitals; this is most marked during sexual excitement. There is no emission in the female, only a hypersecretion, this coming principally from Bartholin's glands. Sometimes erotic dreams cause this hypersecretion, especially if the glands are congested and irritable. By placing the finger over the duct and pressing up and back, the enlarged gland can be felt; the causes which produce hypersecretion leading also to its enlargement. The ORIFICE of the duct, which is located on the inner posterior aspect of the middle portion of the lesser lip, is surrounded by a red areola, giving it the appearance of the bite of an insect.

Affections of Bartholin's glands interfere with sexual intercourse since the discharge, or rather hypersecretion, comes from these glands and in cases of loss of sexual desire these glands are usually atrophied. When there is increased sexual desire, the glands are large and irritable, even psychic influences causing a discharge of mucus. It is the analogue of Cowper's gland in

the male, its function being similar, that is, it secretes a lubricant. In cases in which tonicity of the vaginal walls and vulva, is lost, Bartholin's glands are usually found to be diseased and leucorrhea forms one of the symptoms. One has said that a flabby, pendulous condition of the abdomen results from affections of Bartholin's glands.

In difficult labor dependent upon a rigid cervix and vagina the "Old Doctor" has advised INHIBITION OF THESE GLANDS, this helping dilatation of the OS UTERI AND VAGINA.

When the DUCT is OCCLUDED it causes retention of the secretion, thus forming a cyst. This is diagnosed from hernia by its position, shape, size and fluctuation. Often an ENLARGEMENT of this gland, varying in size from that of an ordinary marble to that of an orange, results from a STRAIN OR SLIP OF THE INNOMINATE bone on the same side. The author has treated several cases of this sort, the swelling coming on within a few hours after the accident. Sexual intercourse aggravates the trouble and usually by the time the patient consults a physician, the swelling is considerable. The correction of the innominate lesion is sufficient in such cases to effect a cure. The accident results from a twist of the body or a fall, the patient slipping on an icy pavement, or due to strain resulting from the attempt to recover.

Abscesses sometimes form in this gland and should be treated according to the rules of surgery. In the treatment of the diseases affecting this gland, remove the sources of irritation and direct the work to remove obstructions to the venous drainage in order to relieve the congestion. There should be complete rest of the gland, sexual intercourse being forbidden. Frequently uterine or vaginal troubles, such as loss of tonicity, are the primary causes and in such cases the treatment should be

directed to those organs. Manipulation over and around the gland is beneficial and especially so in cases of congestion. Cysts of this gland can be reduced by opening up the duct with a probe or by direct manipulation over the part, by which the contents



FIG 56.—Distention of the right vulvo-vaginal gland with pus. (Byford).

of the cyst are forcibly expelled.

PRURITUS VULVAE. This affection consists of an irritability of the nerves supplying the vulva which gives rise to an INTENSE ITCHING and burning of the part. The REGIONS AFFECTED are the inner side of the LABIA MAJORA, the LABIA MINORA

and the CLITORIS. In some cases it may extend to the mons Veneris, anus and the inner sides of the thighs. It is not a disease but a symptom, hence the curative treatment should not be directed entirely to the parts affected, but to the cause. This irritation is either at the peripheral or spinal end of the nerve, that is, a local irritation or a referred impulse.

The irritation at the spinal end is the result of an impingement or disturbance of nutrition of the deep origin of the nerve, in other words is due to a bony lesion pressing on the nerve at its exit, or along its course, or on the blood vessels supplying the nerve or its cells with nutrition.

Another cause of this affection is dirt or the accumulation of smegma after menstruation, and sometimes the disease is due to the oxyuris or thread worm which has migrated from the rectum to the vulva. PEDICULI pubis form an important cause in the lower classes. The "crabs", as they are commonly called, burrow deeply in the mons Veneris, thereby setting up a severe pruritus, or in some cases, a well developed inflammation, if the patient scratches the part very violently, as is often the case. Sometimes pessaries are the cause, especially if they are ill fitted; they irritate the vaginal wall and cause a perverted or a markedly acid secretion. In vulvitis, especially during the healing state, there exists a certain amount of itching, this indicating that the part is healing. Diabetes, a very important cause, results in pruritus on account of the irritating material found in the urine which is deposited around the meatus and in the vestibule, giving rise to a local irritation. Any form of irritating deposit in the urine or an acid condition of the urine, as found in acute rheumatism, may cause the itching. Abnormal discharges from the vagina, such as leucorrhœa, is a common cause, especially if it is a chronic form and the secretion has partly desiccated. The dis-

charges from a cancerous condition will also produce irritation which gives rise to itching.

Frequently at the menstrual time or immediately before or after it, the patient will complain of itching of the vulva, and in some cases it is almost unbearable. The writer had a case recently of this kind which could only be relieved by a vaginal douche as hot as could be borne. Congestion of the vulva will usually give rise to the itching, this congestion frequently being the result of pregnancy. Itching often accompanies the menopause, or even old age, giving rise to various nervous symptoms. Reflexly it may result from intestinal irritation, diseases of the rectum, such as hemorrhoids, diseases of the uterus with its appendages and the urethra. To the osteopath the lesions found in the region of the fifth lumbar are the most important. Also lesions found at the junction of the sacrum with the ilium, that is, subluxations of the sacrum or innominate, disturb the nutrition of the parts, thus setting up a disturbance in the sacral nerves.

The **pathology** of the disease is practically unknown. One observer mentions that many of the nerves, when traced from the deeper parts toward their termination, were seen to acquire a dense, fibrous character, some appearing as well marked fibrous cords, the nerve fibers being compressed or destroyed. This applies only to the chronic cases.

This trouble is SIMILAR TO PRURITUS ANI or itching piles; the two are sometimes found in the same subject, the lesions being almost the same in the two affections. In the beginning the irritability is very slight and annoys the patient very little, sometimes existing only after exertion in warm weather, upon exposure to artificial heat or during menstruation. The rubbing or scratching of the part aggravates the trouble rendering the

skin tender and the nerves more sensitive. As the disease progresses the irritation increases, the patient is bereft of sleep at night, avoids society and becomes melancholic; sometimes the affection even terminating in insanity. On account of loss of sleep, the nervous system is affected, nervous prostration sometimes ensuing. In children, masturbation frequently follows, which habit in the young is hard to break. In adults it leads to frequent coitus, even rendering the patient hysterical or nymphomaniacal. On palpation, tenderness is found at the fifth lumbar sometimes radiating over the hip bones.

In TREATING this affection, it is necessary to find the primary cause of the disorder. If due to external irritation, such as an accumulation of filth, leucorrhea, acrid discharges or parasites, remove the source of irritation by thoroughly cleansing the parts. In case of pediculi pubis, or lice, which are lodged in the mons Veneris, thoroughly anointing the affected area with mercurial or sulphur ointment is sufficient to cause the death of the parasite. As a rule, in the ordinary cases of pruritus, local applications do very little good because they do not reach the cause of the trouble. In some such cases, as those due to discharges, applications are of value. The best applications in the author's hands are carbolic acid, witch hazel and plain hot water or hot compresses. A weak carbolized solution is probably the best of all. In cases due to pin worms a rectal injection of lime water is good. The "Old Doctor" has advised the application of an ointment of lard and turpentine in such cases. The diet is important in cases due to liver or kidney diseases. Alcohol and spiced food should be excluded. Treatment over the sacrum and fifth lumbar, correcting such lesions as are found, is the most satisfactory method of dealing with this trouble in cases in which the pruritus is not due to local changes or causes.

KRAUROSIS VULVAE is a term applied to the condition in which the lesser lips are atrophied, with hardening of the mucous membrane and skin of the vulva. At first the parts are inflamed in appearance, there being small red spots or streaks of dilated arterioles which radiate from the center of the nymphae. These disappear as the disease progresses and atrophy advances. There is loss of sexual desire; whether the cause or result of the atrophy, is unknown.

The cause of this condition is unknown, not even a good theoretical explanation being offered by the medical authorities. The writer has seen only a limited number of cases. In all of them there was a very rigid lumbar spine with muscular contractures. In some of these cases an innominate lesion was discovered.

Pruritus is one of the most constant symptoms, along with a dry condition of the parts, with a tendency to crack and bleed on coitus or digital examination.

In the cases treated by the author, work was directed to the innominate and lumbar lesions. The cases were benefited and one case almost entirely cured.

VARICOSE VEINS OF THE VULVA. A VARICOSE VEIN is one that has been distended to an extent or for such a length of time, that a part or all of the elasticity of the walls has been destroyed. The distention is due to obstruction of the venous return or a paresis of the muscle fibers in the walls of the veins. In case of varicose veins of the vulva, the engorgement is due to obstruction of the veins draining the vulva, this obstruction usually being caused by pregnancy. The parts affected are the bulbs of the vagina and the labia majora. Sometimes these bulbs are enlarged and can be readily felt on palpation. This gives rise to a swelling of the vulva attended by a hypersecretion.

The **treatment** consists of removing the obstruction and if due to pregnancy, little can be done until after parturition. If due to enteroptosis, the intestines should be drawn upward, allowing the blood to drain from the vulva. Often rectal and uterine congestion so obstruct the blood that the veins of the vulva become varicosed, since there is a very free anastomosis of all these veins. Strong treatment in the back frequently helps the condition by strengthening the vaso-motor supply to the part.

There are **VARIOUS OTHER AFFECTIONS** OF the vulva, but only their names will be given on account of their scarcity. The writer saw a case of **ATROPHY** of the greater lips accompanied by hypertrophy of the lesser in a subject which was the victim of masturbation. **ELEPHANTIASIS** is found in tropical countries but is rare in this country. Tumors, such as a fibroma, lipoma and rarely carcinoma, have been found affecting the vulva.

Once in a while a condition called a **HOODED CLITORIS** is found, and is the cause of various nervous troubles such as chorea or epilepsy and other forms of spasms. This hooded condition may be the result of non-development, but is usually in the adult, the result of adhesions which bind the glans down. The labia majora divide at their anterior or superior extremities, the part or fold above the clitoris forming its prepuce, and the part below, its frenulum. Sometimes these parts adhere, thus encapsulating the glans clitoridis. In other cases the lips do not separate, hence the congenital type of hooded clitoris. In either case it is a source of irritation and is the cause of various reflex troubles. To illustrate this: I saw a case in which there was spasmodic twitching of the limbs which came on daily, due to adhesions of the clitoris, which on being removed gave immediate relief. In cases resulting from inflammation, the adhesions can be broken

manually. In congenital cases a slit in the membrane covering the glans has to be made, thereby exposing and freeing it.

Diseases of the meatus are comparatively rare. **URETHRAL caruncles** are occasionally found. They are vascular tumors or angiomata of the urethra at or near the meatus urinarius. The diagnosis is easily made by inspection. The growth consist of a bright red excrescence, in shape like a strawberry or red raspberry, springing from the side of the meatus. They vary as to size; the largest seen by the author was about the size of a small marble.

The cause is not well understood, injury being the most common. The injury is to the urethra, by which the blood, vessels are directly bruised and results from the awkward use of instruments or from a fall on the part.

The chief and almost constant symptom is, painful and frequent micturition. Intercourse is very painful or impossible; locomotion is difficult on account of the pain in the parts whenever jarred or moved. At or near the menstrual period the enlargement is greatest and most sensitive, hence the above symptoms are exaggerated at this time, and in some cases the patient can seldom find an easy posture. In chronic urethritis, the mucous membrane may become everted, thus giving rise to symptoms similar to those from a caruncle.

The usual **treatment** is removal, either by a caustic or the knife. This is not always successful as a cure, since it may return. In some cases it can be absorbed, in others the tumor will remain but loses its fiery red color, after which the sensitiveness diminishes.

The **vulva** is often the seat of injuries. The patient may fall astride a chair or other object, this occurring in servants engaged in cleaning windows; or in bicyclists who are thrown

forward on the iron frame of the wheel. Children while at play may fall astride a picket fence or be injured by sliding down an incline. In such cases as the above, the blood vessels are caught against the pubic bone and often severed, the escape of blood in such cases forming a hematocele. The hemorrhage is very copious on account of the abundant anastomosis of these veins and arteries.

Parturition sometimes causes an injury to the vulva, especially if the case is not properly cared for. Reed says: "Contusions of the labia and sometimes of the vulvo-vaginal glands are due in the majority of instances, to a failure of the head to rotate into the conjugate diameter of the outlet of the pelvis. Not infrequently does the careless use of forceps cause laceration of these parts." Complete rotation should be obtained before extension is well under way. This is secured by local manipulation when labor pain is on.

VAGINITIS. *Vaginitis* or colpitis is an inflammation of the mucous membrane of the vagina. The mucous lining of the vagina resembles very closely in structure that of the skin, having few, if any, submucous glands. The vaginal secretion is acid, and is germicidal in action, during health. During the menstrual period, the puerperium and in case of leucorrhea, the discharge is faintly acid or alkaline—a condition favorable to the growth of micro-organisms. Stroganoff claims that the vagina of the new born is free from micro-organisms but that "baths, washings and especially the application of oleaginous substances favor the entrance of germs." Even if they do enter they are harmless until the vitality of the part is lowered from other causes. Kronig asserts that "all secretions alike contain no pathogenic germs. All secretions are equally germicidal, though the vitality of the germs differs. It takes twice the

time to kill the staphylococcus that it does to destroy the streptococcus."

According to the investigations of many, the **normal** vaginal secretion is of a whitish, crumbling material of the consistency and appearance of curded milk, containing little mucus and giving an intensely acid reaction. The **pathological** secretion, on the other hand, is of a yellowish or greenish yellow color, cream like in consistency and weakly acid or neutral. The **VAGINA** infected with pyogenic micro-organisms will become **ASEPTIC** in from a few hours to two or three days. Any injection or douche which dilutes or washes away the normal vaginal secretion lessens the germicidal action. This is proven by the investigation of various writers. In a series of experiments Kronig found that a solution of corrosive sublimate for irrigation destroys the germicidal action, probably by precipitation of the albumen, while plain water but lessens it.

Experiments have been made by taking three normal subjects and introducing pathogenic micro-organisms into the vagina. In one case **NO INJECTIONS** were used immediately before the introduction of the germs, and the vagina rid itself of the micro-organisms within a few hours. In the second, a thorough **PREPARATORY** plain water vaginal **DOUCHE** was given; as a result it took several days for the vagina to rid itself of the bacteria. In the third case an **ANTISEPTIC DOUCHE** was given just before the germs were introduced into the vagina with the result that it did not entirely free itself of them before the fourth day. From this it is necessary to infer that injections of corrosive sublimate or water are prejudicial. Menje, in his investigations on the nonpuerperal women, introduced pyogenic organisms into the vagina in eight patients and found that the vagina cleansed itself from these organisms in periods varying from two

and one-half hours to three days. I quote these statements because they illustrate the osteopathic theory that a **healthy mucous MEMBRANE** IS SELF-CLEANSING, its SECRETIONS germicidal, and that WASHES IMPAIR ITS VITALITY. I have had a number of cases which conclusively proved to me that the above statements are true.

The liquor amnii is another antiseptic fluid designed by nature to protect the internal organs. After delivery of a child in which the fingers were covered with this fluid, I have noticed that they were wrinkled and the skin drawn up. This is not due entirely to the amniotic fluid but to the vaginal secretions. I mention this to prove how complete the body is in resources to protect itself, and to show that disease, especially vaginitis, usually comes from external causes, and that pyogenic bacteria are introduced by instruments or douches. Another idea has recently been advanced relative to the germicidal action of the vagina. Gilliam (p. 110) says: "The vagina and those portions of the genital tract above the vagina are still further safeguarded by a germ which inhabits the canal, which is not pathogenic and which produces an acid secretion which is inimical to other germs. This is known as the acid secreting germ of Doderlien." This germ, if acting normally, prevents the existence, or at least the multiplication, of pathogenic germs in the genital tract. The gonococcus of Neiser is perhaps an exception, yet the writer believes it to be harmless when deposited on a healthy mucous membrane. The above facts alone would negate vaginal douches, since such wash away those helpful germs, thus weakening the natural defenses.

The VARIETIES of vaginitis depend on degree of inflammation, usually it is divided into the SIMPLE and the SPECIFIC. This classification into the simple and specific vaginitis depends

upon whether the toxic elements arise from within or are introduced from without. Simple vaginitis depends upon some toxic element which has been produced by the changes which have taken place in the stagnated blood. BLOOD, in order to be PURE, must be MOVING, and if the rapidity is lessened vitality is lowered, and if the flow is entirely stopped, fermentation and putrefaction follow. In the specific form the toxic element is introduced from without, the gonorrheal form being the most common type.

THE CAUSES of simple vaginitis are INJURIES to the walls by means of some instrument, as in an attempted abortion, excessive or awkward coitus, irritating discharges, injections too cold or containing injurious chemical agents, caustics, decomposing compounds, and tampons or pessaries that have been left in in the vagina for some time. Herman says that puerperal vaginitis, that is the form due to injury of the vaginal walls at labor, is the most common type. The vagina is often bruised, scraped or even lacerated in some instances, and quite often too, in primipara, if care and caution are not used.

Any LESION affecting the vaso-motor center will cause congestion, and unless corrected, will terminate in inflammation. The most common lesion is at the lumbo-sacral articulation or at the sacro-iliac synchondrosis. I saw a case recently in which the lesion was at the fourth and fifth lumbar, but usually in those cases an endometritis complicates the vaginitis. In many of these cases the lesions are higher, that is in the upper lumbar region, and primarily affect the uterus, which in turn produces vaginitis on account of the irritating discharges. In inflammation of the cervix uteri, the disease may travel by continuity of tissue to the vaginal walls and there set up a secondary inflammation.

DISPLACEMENTS, CONGESTION and INFLAMMATION of the uterus produce vaginitis by interfering with the venous return

from the vagina. Some of the worst cases the writer has ever treated followed uterine inflammation which resulted from a hard labor in which the cervix was lacerated. As mentioned above, the intensely acrid discharge erodes the surface of any part with which it comes in contact. The writer has seen cases in which the discharge was so strong that the integument of the INNER SIDES OF THE THIGHS WAS ERODED at the points at which some of the discharge accidentally came in contact. In other cases a deposit of thick, creamy, leucorrhœal discharge partly or completely filling the fornices, sets up an irritation sufficient to excite inflammation. Subinvolution of the vaginal walls following childbirth is often the cause of a chronic form of vaginitis, since the vaginal walls as well as the uterus involute after delivery, and in subinvolution of one, the other is affected.

The SPECIFIC form is caused by GONORRHEAL infection. It is hard to cure on account of its tendency to spread to the uterus and Fallopian tubes and there set up a chronic inflammation.

The important pathological point is CONGESTION. The blood vessels are engorged, the surface red and painful, and in the worst cases permanent degenerative changes take place, such as a deposit of scar tissue in the walls of the vagina.

The CLINICAL SYMPTOMS of vaginitis do not differ very much in the various types of inflammation except that in the specific type they are more intense. There is HEAT, sense of DRYNESS at first, and **burning** of the vagina. This extends to the urethra, causing FREQUENT, IMPERFECT and BURNING micturition. At first there is little or no secretion, but in a few days there is a leucorrhœal discharge of an offensive odor. **Pains** of a throbbing character are referred to the PELVIS and GROINS. There is redness and excoriation of the vaginal opening. The LABIA ARE SWOLLEN, red and irritable; vaginal examination causes great

pain and often cannot be tolerated. The **INGUINAL LYMPHATIC GLANDS** are frequently **TENDER** and **ENLARGED**, their function being to collect the toxic elements resulting from the inflammation and prevent them from being thrown into the general circulation. In acute cases the usual malaise, anorexia and fever are found.

The above symptoms vary with the degree of inflammation; they being lessened, or some of them absent in the simple form, while in the aggravated form they are exaggerated.

The **symptoms** of the specific form of vaginitis, are similar to those of the simple form, but are more intense. The disease is not confined to the vaginal walls but extends to the urethra. In fact, the meatus seems to be the seat of the disease in that the inflammation is greatest at that point. Traces of the disease remain for quite a while after an apparent cure. The parts are in the beginning very tense, red, hot and dry, but after a few days a muco-purulent discharge appears. Its diagnosis depends upon the discovery of the presence of the gonococcus of Neiser, which is ascertained by microscopical examination.

In making a microscopic preparation, obtain the secretion, spread in a thin film on a clean glass slide; allow to dry in the air then pass it through the flame of an alcohol lamp two or three times, being careful to have the pus side turned up. A drop or two of dilute water solution of one of the aniline dyes, methyl blue being commonly used, is then applied by a glass rod, and left on for two or three minutes. The specimen should then be carefully dried, mounted in Canada balsam and studied with a high power oil immersion lens. The gonococcus may be recognized by the following description: They occur in pairs or in groups of four, but generally in the form of diplococci. According to

Sternberg, the flattened surfaces face each other and are only separated in stained preparations by a small unstained interspace. They have aptly been compared in shape to "BISCUITS" with the FLAT SURFACES IN APPPOSITION. In chronic cases, the micro-organisms are embedded in the epithelial cells. When a patient comes to you suffering with some form of vaginitis, be careful as to the diagnosis you make and DO NOT MISTAKE a SIMPLE VAGINITIS for a SPECIFIC, since the patient's social happiness may depend upon your diagnosis.

The adhesive type of vaginitis is found in cases of, or rather follows, marked inflammation in old women and sometimes in young girls. The fornices grow fast to the cervix; sometimes they are entirely obliterated and the vaginal lumen partly or completely obstructed.

The **prognosis** in the simple form of vaginitis is good. In the specific type there is grave danger of the disease reaching the uterus, tubes and ovaries. In such cases a cure is the exception, especially in cases of a year or more duration. Since the prognosis depends on limiting the diseased area, care should be taken in the giving of injections as the micro-organisms may be carried higher, even into the uterus.

Treatment consists in first removing the noxious elements or toxic material, and second, restoring normal circulation. If there is any irritating discharge treat the source of that discharge. If a lesion is found, whether bony as in the lumbar region, or a displaced uterus, correct the disturbance. In short, TREAT ANY ABNORMALITY which may affect the vaso-motor supply of the vagina or interfere with the venous return. Since the VEINS DRAINING the VAGINA DRAIN THE UTERUS, it follows that uterine disease, especially displacement, will cause congestion of the vagina, thus predisposing it to inflammation and other diseases.

Washes and douches are usually prescribed but should be used only for cleanliness sake, or as a palliative treatment. Local treatment over the sacrum and stimulation over the lower lumbar region will help, also treatment over the abdomen to remove the pressure exerted by the intestines.

If the inflammation is of specific origin, use as a wash a warm rose colored solution of permanganate of potassium, three times daily, until the microbes are destroyed, which is indicated by cessation of the discharge of pus, this usually taking about a week. The DRY TREATMENT is recommended in cases of specific vaginitis, in which it can be substituted. The vaginal walls are exposed by means of a Sims speculum, and then thoroughly cleansed and wiped dry by a cotton swab saturated with some antiseptic solution, such as bicloride of mercury or bismuth. As a rule it is not policy for the osteopath to treat venereal diseases; he should rather refer such cases to the specialist.

VAGINISMUS. This affection consists of a peculiar HYPER-ESTHESIA of the nerves of the mucous membrane of the vagina, irritation of which produces a painful, spasmodic contraction of the muscles surrounding the vagina or pelvic floor, resulting in tightly closing the lumen of the vagina, PREVENTING OR MAKING DIFFICULT digital or instrumental EXAMINATION, or COITION. It is quite a rare disease, found principally in young, nervous, hysterical women who suffer from dysmenorrhea from flexion of the uterus. It is not really a disease of the vagina with pathological changes as it is ordinarily understood, but only a nervous condition dependent on an irritation to the muscles of the pelvic floor or to a general nervous irritability.

It is usually produced by some LOCAL IRRITATION, such as a URETHRAL CARUNCLE OR a DISEASED HYMEN, which, when touched, causes pain and contraction. Sometimes the remains

of the hymen continue to be irritable for some time after it has been ruptured, they not having properly healed, this giving rise to great pain during intercourse or an attempt to make a vaginal examination.

A **DISPLACED COCCYX** is quite often the cause of vaginismus. If the coccyx is displaced laterally or backward it puts on a tension the muscles attached to it; if thrown forward it produces pressure on the posterior vaginal wall. If tenderness is present at the sacro-coccygeal articulation, or at the tip of the bone, the lesion is in all probability the cause of the disease. **PELVIC INFLAMMATION** due to metritis or uterine displacement affects the sacral nerves by extension of the inflammatory process to them; this in turn affects the muscles innervated by them, viz., the muscles of the pelvic floor. A **TENDER OVARY** is often found in cases of vaginismus which when touched, causes contraction of the muscles of the pelvic floor.

If the patient's general nervous system is impaired the nervous form of vaginismus will be produced, there being no local disturbances. The hyperesthesia is general, as is manifested by the nervousness and general tenderness. In such cases spinal irritation is marked and the vertebrae separated on account of the relaxation of the ligaments, thus producing hypermobility. **VAGINITIS** is a cause of this condition, since it produces contraction of the sphincter muscle with great pain, when the tender vaginal walls are irritated. **LESIONS** found in the lower lumbar region, affect the innervation to the vagina and if the lesion irritates instead of inhibits the nerves, sacral and pudic, vaginismus will result.

The **symptoms** are those of dyspareunia and spasmodic contractions of the vaginal walls whenever an attempt is made to give a local examination. As soon as the finger comes in con-

tact with the site of the hymen, the patient will complain of agonizing pain and become very much disturbed in her nervous system. Should the examination be persisted in, the introduction of the finger will be found almost impossible, and if forced into the canal is tightly grasped by the sphincter muscle.

This affection, when chronic, gives rise to general nervousness, irritability and spinal irritation, thus becoming a real, distressing form of disease in addition to its local effects.

The PALLIATIVE treatment consists of strong inhibition of the nerves supplying the vagina. This is best accomplished by pressure applied to the posterior sacral region. This relaxes and relieves but only for a short time. The cause must be removed; that is, the lumbar and sacral lesions corrected. Often the inhibitive treatment is given before attempting a local vaginal examination or treatment, and is usually helpful and advisable.

RECTAL TENESMUS is a similar trouble and can be relieved by a similar treatment. Vesical tenesmus can also be relieved by inhibition of the nerves innervating the part.

Sometimes vaginismus is treated by DILATATION OF THE VAGINA either by a glass dilator or by means of the finger. By doing this the contraction is forcibly overcome; this being a good form of treatment only in a few cases. When instruments are used for the purpose of dilatation of the vagina, the patient should be anesthetized. PARTURITION is a cure for this condition; the only trouble is that pregnancy is usually precluded by the disease.

Surgeons have devised operations for the cure of vaginismus. The most important is Sims', by which the bulbo-cavernosi muscles are severed. In cases of disease of the hymen in which some of the carunculae myrtiformes are enlarged and tender,

removal of these sensitive lumps is indicated, if the case does not yield to the ordinary osteopathic treatment for same. By the osteopathic method, the constrictor muscles are relaxed by inhibiting the nerves supplying them and physiological dilatation results.

A case was reported to me by Dr. Anna Hannah which deserves special notice. The patient was a married woman and during the eight years of married life, intercourse was impossible on account of the spasms or contractions of the vagina, they being so severe that the act was prohibited. Various treatments had been resorted to, such as forcible dilatation under anesthesia, the use and wearing of dilators, etc., but the patient did not improve. Under anesthesia a digital vaginal examination could easily be made showing no organic disturbance. Under osteopathic treatment the case was entirely cured, the patient becoming pregnant and giving birth to a living child. The cure was accomplished by correcting some lesions found in the lower lumbar region, coupled with strong inhibition over the sacrum and frequent attempts at giving local vaginal treatment. At first these local treatments were decidedly incomplete in that only a partial intromission was possible and that very painful. After a few weeks the treatments were less painful; the patient became less nervous, her confidence having been won, and gradually the irritability disappeared.

CYSTOCELE. *Cystocele* or vesico-vaginal hernia, consists of a descent of the bladder so as to impinge upon the vaginal canal and forcing the anterior wall downward into the lumen of the vagina. It is really a prolapsus of the anterior vaginal wall which is the principal support of the bladder. Either of the vaginal walls may prolapse forming a bulging, softened tumor of the part, such as rectocele, enterocele or cystocele, the last being the most common.

Since the disease is seldom seen in nullipara, **CHILDBIRTH** is, almost invariably, the cause of this condition, the vaginal canal being so enormously distended in some cases that the tone of the walls, in this case the anterior wall, is lost and the bladder pushes it outward and downward. If the wall is also bruised in delivery, it will be the more weakened and a heavy distended bladder may cause a prolapsus of it. The bladder should be emptied soon after parturition on account of its increased weight and the weakness of its support.

LACERATION of the perineum weakens the vaginal walls, hence may be the cause of either cystocele or rectocele. **STRAINING AT STOOL** forces the pelvic contents downward, and if the support is weakened there is a tendency to prolapsus of the different organs. To **PREVENT THIS** during the puerperium always insist on the patient using a **BED PAN** for at **LEAST TWO**, better three weeks, after confinement. **SUBINVOLUTION** of the vagina is a cause, since by it the vaginal walls are weakened and if the bladder becomes distended, cystocele will follow. The **OSTEOPATHIC LESIONS** associated with this trouble are located in the **SACRAL AND LUMBAR** regions since the nerves supplying the vaginal walls originate there. Any lesion which shuts off a part of the nerve force weakens the muscle which is supplied by that nerve. Since cystocele is the result of the weakening of the anterior vaginal wall we must go to its innervation for the cause; it being found in the muscular or bony lesions which inhibit the nerve force.

FREQUENT and **IMPERFECT MICTURITION** are the principal symptoms of this trouble. The bladder being forced downward produces an abnormal curve of the urethra which prevents the bladder from entirely emptying itself. The retained urine decomposes and sets up a cystitis. There is pain, a burning or

scalding sensation, and vesical tenesmus whenever an attempt is made to evacuate the bladder. The patient describes a lump or protrusion in the anterior vaginal wall which is present when she stands, but disappears when in the recumbent posture. By



FIG. 57.—Cystocele. (From photo of author's case.)

separating the greater lips this TUMOR can be seen on the anterior vaginal wall. It is covered by rugus vaginal mucous membrane and decreases in size or even completely disappears by evacuating the bladder by means of a catheter.

In mild types the tumor will disappear on digital pressure on the part, especially if the patient is in the genu-pectoral position when treatment is given. The best position in which to examine a patient with either cystocele or rectocele is the squatting posture, since in this position the prolapsus of the vaginal wall is at its worst. The examination can be readily and best made by means of a hand mirror, so held that the physician standing behind the patient and looking over her shoulder, can see the vulva with the tumor reflected in the glass. There is a dragging sensation or feeling of weight, this being more marked if the bladder is not emptied frequently. Prolapsus of the entire vagina and occasionally of the uterus, accompany this condition, in fact there is some prolapsus of the uterus in every case of cystocele. The ligaments supporting the uterus are weak and relaxed, thus allowing very free, even too free, movement of the uterus. The writer has treated cases that had been diagnosed as cystocele, but on close examination they proved to be cases of prolapsus of the uterus with some eversion of the vaginal walls, but not sufficient to pull the bladder down. The cervix was forced down upon the anterior vaginal wall almost to the external orifice, producing a tumor, a sense of weight and interference with micturition.

The **treatment** consists in relieving the pressure on the anterior vaginal wall and restoring the tonicity to the supports of the bladder. The **PRESSURE** can be relieved by frequent evacuation of the bladder, if necessary, by the use of the catheter. Sometimes the folds in the vaginal wall must be straightened out in order to remedy the curve existing in the urethra. This can best be done, and in some cases only accomplished, by introducing a sound into the urethra and lifting the bladder and anterior vaginal wall.

The **SUPPORTS** of the bladder can be strengthened by correcting the lesions which interfere with their innervation, and strong stimulation over the sacrum, to increase their tonicity. Local digital treatment is indicated in some cases in order to push the bladder up and correct the prolapsed condition of the vagina. This treatment consists principally in a circular motion of the finger; in other words, a rimming out of the vagina.

ASTRINGENT DOUCHES have been advocated; they will probably relieve temporarily in some cases but will not cure and even make the condition worse if long continued. Sometimes an operation is resorted to by which a portion of the wall is resected; that is, by a transverse denudation, and the edges brought together. When union takes place, the lumen of the vagina is lessened in proportion to the amount of tissue removed. This operation is called **colporrhaphy**.

RECTOCELE. A **rectocele** is a tumor produced by the rectum forcing outward and forward the posterior vaginal wall. Sometimes other structures will force it forward, yet the tumor is still called a rectocele; but technically, a rectocele is a tumor produced by the rectum.

The **causes** are similar to those producing cystocele, except that constipation takes the place of a distended bladder. **LACERATION** of the **PERINEUM** or **POSTERIOR VAGINAL WALL** is a very common cause. This weakens the support of the rectum so that when distended the vaginal wall is forced forward. If the patient is not constipated the rectum is empty only for a short period just preceding defecation, but if constipation is present, the rectum is habitually distended, hence the constant pressure against the weakened posterior vaginal wall, produces a rectocele. As mentioned above, any lesion which affects the tonicity of the vaginal walls will produce either rectocele or cystocele if pressure

is exerted upon them. Lesions, by impairing the nerve force to the pelvic floor, cause the perineal body to sink downward and backward, which thing alone is sufficient to cause rectocele.

Among the **symptoms** are found constipation, hemorrhoids, tenesmus, rectal irritation and sometimes inflammation. On



FIG. 58.—Rectocele. (From photo of author's case.)

vaginal examination the tumor on the posterior wall can be found bulging into the vaginal canal. On rectal examination a fossa or depression will be discovered, corresponding to the cavity of the tumor. This is especially noticed in the aged. In such cases, or in chronic or pronounced cases, the cavity sometimes measures two or more inches in width. The feces collect there and the rectal wall is depressed, giving rise to chronic con-

stipation, which is an effect or result of rectocele rather than a cause.

The **treatment** is similar to that of cystocele; that is, endeavor to restore tonicity to the vaginal walls. Relieve the constipation if possible, that being a very important part of the treatment. In case the perineal body is torn it should be repaired, since the walls will be weak as long as that injury exists. Local rectal treatments are advisable to remove the folds of the mucous membrane of the rectum. It gets rolled down upon itself and mechanically obstructs the lumen by pulling down the sphincter muscles with it. Local vaginal treatment given to straighten the folds of the vaginal wall and to lift the uterus is to be recommended occasionally. In cases in which a laceration of the posterior vaginal wall is the cause, a surgical operation is advisable.

OTHER AFFECTIONS OF THE VAGINA. The vagina is the seat of various other affections, such as innocent and malignant growths, papillae, injuries and abnormal discharges. In cases in which there is a twisted pelvis, displaced ilium or sacrum, the blood may become stagnated in the vaginal walls. This venous congestion gives rise to an abnormal discharge which is called vaginal leucorrhea. The walls are smooth and covered with a slimy fluid. Rugae are absent and the canal can be dilated to a very great extent. The tonicity being lost, the walls tend to prolapse, and with them prolapsus of the uterus, since they form one of the principal supports of the uterus. Along the vaginal walls are found transverse FOLDS OR WRINKLES which have been formed by the relaxed walls rolling upon themselves. These not only show that the walls are weakened, but that they are diseased and malnourished.

Dryness of the vaginal walls indicates that douches, astring-

ent or otherwise, have been used; or that there is a loss, partial or complete, of the SEXUAL DESIRE or activity, or both.

The use of alum or other astringent douches are advised by some physicians in cases of prolapsus of the vaginal walls, loss of tone, etc. Usually, if the practice is indulged in for a very long time, that is over a month, the mucous secreting glands are destroyed or impaired. MOIST vaginal walls, in cases in which the secretion is normal in character, are normal and indicate sexual activity and strength.

Garrulity of the vagina or vulva or FLATUS VAGINALIS are terms applied to the condition in which air, having entered the vagina, is expelled with a noise. This occurs with movements of the body, especially walking or straining, and is due to a large, relaxed vaginal canal with a patulous OSTIUM VAGINAE resulting from subinvolution, caused especially by perineal laceration. In the cases treated by the author, there was a history of douches having been used in all, which thing constituted the most important of all causes. SUBINVOLUTION is also an important cause. In some of these cases there was a cavity around the cervix; that is, the fornices were so distended that a space varying from one to three inches in diameter, was discovered. Prolapsus uteri invariably complicates such conditions. The TREATMENT consists in restoring tone to the vaginal walls, thereby securing coaptation of the walls. This is accomplished by advising the patient to cease using the douche and by correcting lesions which interfere with the normal action of the levator ani muscles.

Cysts of the vagina are occasionally met with. The writer has seen several cases in which they were as large as hen's eggs. They are quite superficial, thin walled and filled with a clear serous fluid. Surgical interference by which the cyst is removed

is the treatment resorted to in most cases. Some, in which the cysts were small, have yielded to osteopathic treatment.

Atresia of the vagina, either congenital or acquired, is sometimes encountered. The writer recently examined a case of congenital atresia with non-development of the uterus, and under-development of the ovaries. On inspection the hymen was found to be perforate but by widely separating the labia no vaginal opening or canal could be seen. On digital examination the finger could be passed as far as the first joint. On rectal examination no uterus could be outlined. On questioning the patient it was ascertained that she had monthly symptoms of menstruation which had recurred regularly for several years. The patient was twenty years of age. The conclusion was that it was a case of congenital absence of the vagina and possibly of the uterus; or since molimina were present, it was a case of developed ovaries with small uterus. In such cases ovariectomy is the only cure.

Another case examined by Dr. C. E. Still and myself, revealed a partly developed vagina and uterus. After inhibition of the clitoris and repeated attempts at vaginal examination the uterus was finally reached. Repeated examinations dilated the vagina to such a degree that menses became normal. The patient, aged nineteen, had never menstruated and had few pathological symptoms except the monthly pain.

Coccydinia is a term used to designate a pain, often intense and constant, located at the coccyx, from which point it radiates to the neighboring parts. Since the disease is almost entirely confined to women it was supposed to be the result of some disease of the female genitalia. However, it most frequently occurs as a result of some injury to or disease of the coccyx. Falls, kicks, difficult parturition, constant sitting and lesions of the

sacrum are common causes. In some cases the lesion is higher, affecting the origin or course of the nerve supplying sensation to the integument over the coccyx, in some the apparent, in others the real seat of the pain. The NERVES INVOLVED are the FIFTH sacral and the COCCYGEAL, both of which end at the tip or posterior surface of the coccyx. Since these nerves connect with those supplying the uterus, uterine and ovarian disease may cause a pain to be referred to the coccyx and produce coccydynia. Again, the same segment of the cord which supplies sensation to the coccyx supplies the uterus.

The PRINCIPAL SYMPTOM is **pain** on the slightest pressure against the coccyx, even defecation causing pain. In most cases there is a **constant ache** or pain which is exaggerated on movement of the body or especially from sitting long in one position in which the pressure is on the coccyx.

The **treatment** should be directed to correcting the displacement of the coccyx. This is accomplished partly by external and partly by internal methods. In very tender cases an external treatment should be used until the parts become less sensitive. The internal method consists of introduction of the finger into the rectum, thereby securing such a grasp on the coccyx that reduction is made possible. In other cases, such as a sacral lesion, uterine displacement or those in which the pain is purely reflex, the particular cause must be ascertained and treated accordingly.

TO CORRECT the various vaginal disturbances, remove the lesions found and direct little work to the vagina itself since the effect not the cause, in most diseases is located there. Do not diagnose by symptoms alone. They perhaps help, but examine the anatomy; LOOK FOR SOME ANATOMICAL ABNORMALITY; this is the osteopathic idea. In cases of prolapsus of the vagina, the

application of astringents only temporarily increases the tonicity, the walls receiving no nourishment from them. Their use can not build up a part that is weakened by malnutrition. It is treating a symptom, not a cause. Sometimes it is beneficial to introduce the finger and smooth out the folds which exist, but the principal treatment is to correct the lesion found.

INJURIES TO THE VAGINAL WALLS occur in some cases of labor, however, such injuries can be avoided in a majority of cases by our treatment, that is by producing relaxation of the constrictor muscle fibers of the vagina so as to allow the fetal head to pass. Sometimes foreign bodies are introduced into the vagina, or the walls injured by the patient in the practice of masturbation or in the production of abortion. The writer knew a case of a patient that made a practice of introducing a tallow candle into the vagina in masturbating; followed by a peritonitis that proved almost fatal.

Awkward or forcible coitus often results in laceration or other injury of the vagina, hymen or vulva. If the vagina is small and the male organ very large, injury of the vaginal walls is almost sure to follow the first coitus.

The IMPROPER OR UNSKILLFUL use of instruments, or drugs is also to be considered. Too frequent, or rather the use of too much force in giving digital local treatments, may injure the walls.

Douches. A vaginal douche consists of the injection of a fluid into the vagina or uterus. It consists of water, hot, lukewarm or cold, or it may be medicated. It is a practice that is indulged in by women for the sake of cleanliness or for therapeutical purposes, and has become such a common one that it is necessary to call attention to some of the evil effects that follow its use. Daily douches are recommended by physicians if

there is pelvic inflammation or leucorrhea. The theory is that the inflammation can be reduced and the leucorrheal discharge stopped, apparently forgetting that these are only symptoms of some other disturbance, and that to stop the discharge without removing its cause, only makes the condition worse. Douches in which there is alum or witch hazel, are also advised for the above, to be used either one or more times per day. I have asked patients why they use the douche so often, they telling me that their physician advised it in order to cure the prolapsus or leucorrhea, or whatever disease condition existed. Perhaps I will cause some criticism when I make the statement that hot water douches ARE SELDOM, IF EVER INDICATED, AND IN MOST CASES ARE POSITIVELY HARMFUL WHEN USED as physicians ordinarily direct.

Let us again consider the secretion of the vaginal walls. It is acid, germicidal and will repel microbic invasion. Examine a normal mucous membrane; it is self-cleansing, self-purifying, and will, so long as it remains normal, take care of itself. Again, what is the effect of water, especially lukewarm water as is generally used, upon the mucous membrane? It washes away the secretion, dilates the vessels, slows the circulation through the membrane and impairs the secretion. It lessens THE VITALITY of the parts, leaving them in a lifeless condition. As an example, examine the fingers of a washerwoman after she has had her hands in water for a little while; the skin of the palm of the hands and fingers will be drawn and puckered.

If the practice of using douches is indulged in for some time, atony of the vaginal walls must follow with its prolapsus, leucorrhea, weakening of the constrictors and a distended condition of the fornices. I can tell in most cases, by local examination, whether the patient has used douches for any length of time;

since it causes a deepening of the FORNICES, leaving a CAVITY sometimes OVER AN INCH IN WIDTH AROUND THE CERVIX. No wonder prolapsus uteri follows this condition.

In cases of putrid discharges, a douche is sometimes indicated, it depending on the individual case. This is given for the sake of cleanliness, not as a curative agent. Douches of a weak solution of sodium chloride have been advised by some osteopathic practitioners for leucorrheal conditions. They may be palliative, in that they lessen the amount of the discharge, but they certainly are not curative, in that the effect, not the cause, is treated.

As a substitute for douches as therapeutical agents I would offer the idea of correcting the anatomical lesion which is causing the weakness or abnormal discharge, instead of applying the water to the symptom. As a rule, a douche of some sort is indicated after the menses have completely stopped, in order to remove the odor which clings to the vagina and vulva, but not before, as the flow will be disturbed by it. In cases of malignant disease a wash is sometimes used if the odor is very marked.

AFFECTIONS OF THE UTERUS.

THE IMPORTANCE. The **uterus** on account of its **LOCATION**, **FUNCTION** and the **EASE** with which it is disturbed, is one of the most frequently diseased organs of the body. It may be affected in various ways; by being displaced, inflamed, or by growths occurring upon it, all of which disturb the sympathetic nervous system which is so intricately and abundantly distributed to and around it. The **UTERUS**, being the organ in which gestation occurs, has a very close connection with the vital organs of the mother, since life and nourishment are carried from one to the other. In order to carry nutrition to grow a fetus, the nerve and blood mechanism must be very highly developed. Although this is not so markedly developed before pregnancy, yet the nerve distribution is about the same, a few new nerves are formed during the pregnancy, while the existing nerves are hypertrophied. I mention this in connection with pregnancy because that is the special function of the uterus; to prepare a place for the impregnated ovum, to develop and nourish it while in utero, and then expel the products of conception at the end of the term. Anything which disturbs this function is a cause of uterine disease since it interferes with nature's laws.

Again, on account of the intimate nervous connection between the uterus and other organs, they may be affected reflexly when the uterus is diseased. All organic life is run by the same force; this force, apparently to us, is derived from the **GREAT SYMPATHETIC NERVOUS SYSTEM**, the branches of which follow all arteries and veins, controlling the nourishment and function of each organ. If this system is disturbed in one place the next weakest point will suffer secondarily. For instance if the stomach is weakened

by a lesion in the splanchnic area, a displacement of the uterus will affect the stomach, causing various troubles, such as nausea, vomiting, or formation of gas. Various other organs are affected sympathetically, that is, by way of the sympathetic system, the exciting cause being a disturbance of the pelvic organs to which the sympathetic system is most widely distributed, and with which the other viscera are so closely connected.

Relations of the Uterus. A DISPLACEMENT of the uterus will directly affect the ADJACENT ORGANS, or indirectly as mentioned above, the distant organs, which are innervated by the same nerve force. The NEIGHBORING ORGANS or adnexa, are the bladder in front and below, the vagina with its fornices below, the rectum behind, the small intestines above, and on either side the broad ligaments, vessels and nerves to the uterus, ovaries and Fallopian tubes. There is no vacant space or cavity in the pelvis. Every crevice and fossa is filled. The uterus, in fact, is surrounded by connective tissue filling in every possible space, which helps to support and protect. Muscle fibers penetrate into the connective tissue giving it strength, contractility and elasticity. The small intestines, being in relation with the upper or back part of the uterus, exert some pressure on it. The uterus becomes pathological when this pressure from enteroptosis is marked.

An expulsive force acting on the bowels affects the position of both the uterus and bladder. Hence in straining at stool, if the uterine supports are weak, there is a tendency to prolapsus of the uterus, this in turn affects the vaginal walls, Fallopian tubes and ovaries; in short, a disturbance of all the pelvic organs. On account of this INTIMATE RELATION existing between the different pelvic and abdominal organs both as to position and function, a DISPLACEMENT OF ONE AFFECTS ALL, producing congestion and probably inflammation.

The Normal Position. In order to recognize a displacement of the uterus it is first necessary to acquaint one's self with the normal position. The POSITION of the NORMAL UTERUS is VARIABLE. WHAT WOULD BE REGARDED AS NORMAL FOR ONE WOULD BE ABNORMAL FOR ANOTHER. There seems to be such a thing as a NORMAL ABNORMALITY; that is the uterus may be apparently or in reality

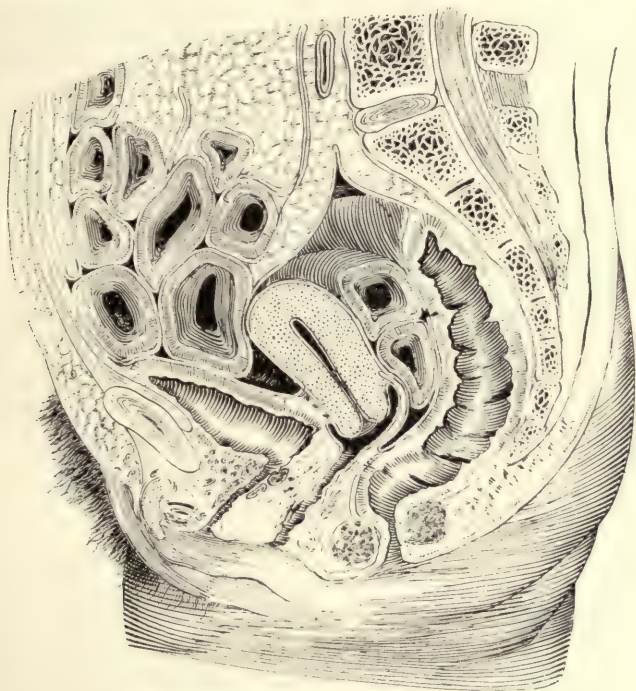


FIG. 59.—The normal position of the uterus.

very much displaced, yet the patient suffers no inconvenience from it. These things must be considered in making up a correct diagnosis.

It is common for works on anatomy and gynecology to represent the uterus as having a straight canal, and lying midway

between the symphysis pubis and the hollow of the sacrum, its axis corresponding to that of the inlet of the pelvis, that is, in a position of a very slight anteversion. The bladder and rectum are wrongly presupposed to be distended, thus forcing the uterus into the position which is seldom seen in health, or at least it does not remain so for any great length of time.

The NORMAL POSITION VARIES with the distention of both



FIG. 60.—Movements of the uterus in different degrees of distention of the bladder.

the bladder and rectum, especially with that of the bladder. Aside from these movements it has a rhythmical movement, due to respiratory action. The ARC OF MOBILITY, according to Reed, "may vary from 45 degrees to 90 degrees." A uterus may be said to be DISPLACED when it "ceases to manifest these normal variations of position, and when it persistently remains in a position distinctly at variance with the one which it should occupy

under average conditions." Yet on the other hand a UTERUS with TOO GREAT AN ARC of mobility may be said to be DISPLACED. This refers to cases in which the uterus can be moved to any position, or rather one that changes its position to any marked extent, whenever the position of the body is altered. **A fixed uterus whatever its position, is abnormal.** A CERTAIN AMOUNT OF MOBILITY of the UTERUS IS NECESSARY to the **functional integrity of all the pelvic viscera.** Theoretically, if the patient is in an erect position and the bladder empty, the axis of the uterine

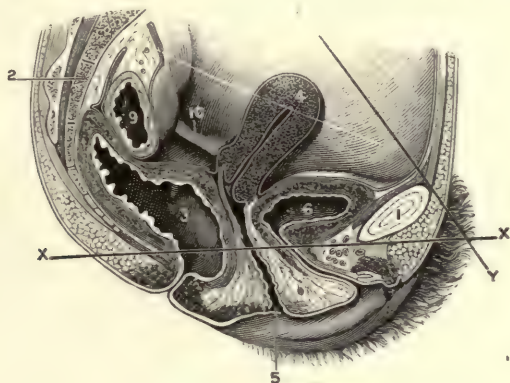


FIG. 61—X, Plane of pelvic outlet. Y, Plane of pelvic inlet. 1, Symphysis. 2, Sacrum. 3, Rectum. 4, Uterus. 5, Vagina. 6, Bladder. 9, Sigmoid flexure of the colon. 10, Utero sacral ligaments. (Testut)

canal lies at about right angles to the vaginal axis. A line drawn from a point midway between the umbilicus and the symphysis pubis to the hollow of the sacrum will fairly represent the long axis of the uterus, the fundus being about on a level with the brim of the true pelvis. The canal of the uterus is slightly curved with its convexity upward and backward. Practically, as stated above, MANY A NORMAL UTERUS, in fact a great majority, DO NOT COME UNDER THIS RULE.

With the patient in the dorsal position introduce the index finger of the right hand and it will, when carried up, come in contact with the CONICAL SHAPED body projecting into the vagina, which is the CERVIX. It is firmer than the surrounding tissues, its tonicity varying in different cases, a congestion as in pregnancy producing softening; a deposit of fibrous tissue, producing hardening. Its DIRECTION will be downward and backward; it resting on the ball of the finger when well introduced. If the CERVIX IS IN LINE WITH THE VAGINA, or in other words, if the end of the finger comes in contact with the END of the cervix, it indicates a RETROVERSION, or a cervical ante flexion since the CERVIX IS THROWN FORWARD IN SUCH DISPLACEMENTS. If the end of the cervix is high, and is reached with difficulty, it is probably an ANTEVERSION. In typical cases of flexion the cervix is in about the normal position.

The POSITION of the BODY is determined by bimanual examination, that is, with the examining finger of the right hand in the vagina and with the other hand making pressure just above the symphysis pubis. (See Fig. 51). By gently raising the uterus with the internal finger the impulse, if the uterus is in normal position, will be transmitted through the long axis of the uterus to the external hand, or an impulse from pressure over the fundus, will be communicated to the internal or examining finger. If slightly anteverted or ante flexed, or if the uterus is carried downward and forward by external pressure, the impulse on bimanual examination, will be transmitted through the uterus antero-posteriorly, that is flat wise. Even in the normal uterus, if it is slightly depressed with the external hand, the two surfaces anterior and posterior, instead of the ends of the cervix and fundus, are palpated between the two hands.

“The position of the VIRGIN UTERUS is such that the body is

joined to the cervix at an obtuse angle, opening downward and forward, so that on an internal examination one can feel a large part of the anterior surface of the uterus through the anterior vaginal cul de sac." If the uterus can not be felt between the two examining hands, that is if the two hands can be so closely approximated that each examining finger or hand can be distinctly felt by the other, it indicates a backward displacement, the particular form of which is determined by the vaginal and rectal examination by which BOTH ENDS OF THE UTERUS are located. In thin subjects, the uterus can be readily outlined by this method, but in the obese it is hard to locate the body and the diagnosis must be made from the vaginal and subjective examinations.

NORMAL SUPPORTS OF THE UTERUS. SEVERAL FACTORS enter into the COMPOSITION of the SUPPORTS of the uterus, it being maintained for the most part by the **pelvic floor** of which the ligaments are regarded as a part. Normally the ligaments are in a state of relaxation, and limit the normal range of the movements of the uterus; BACKWARD displacement of the BODY is resisted by the round ligaments; BACKWARD displacement of the CERVIX by the utero-vesical ligaments; DOWNWARD and FORWARD displacements by the SACRO-UTERINE, and LATERAL displacements by the BROAD ligaments. All these ligaments CONTAIN MUSCLE FIBERS continuous with those of the uterus, hence in a relaxed, enlarged subinvolted uterus, the ligaments will be in a similar condition, thus allowing the organ too free movement or improper support.

These ligaments, with the exception of the sacro-uterine, could not support the uterus, since their insertions are on a level with, or at least not below their origin, unless the organ is prolapsed. All the ligaments with the vesico-vaginal septum, con-

stitute a suspensory support and SERVE TO ANCHOR the uterus to the surrounding tissues. When there is a uterine displacement, traction is brought to bear upon them, which is accompanied by a dull heavy ache or DRAGGING DOWN sensation. Some de-

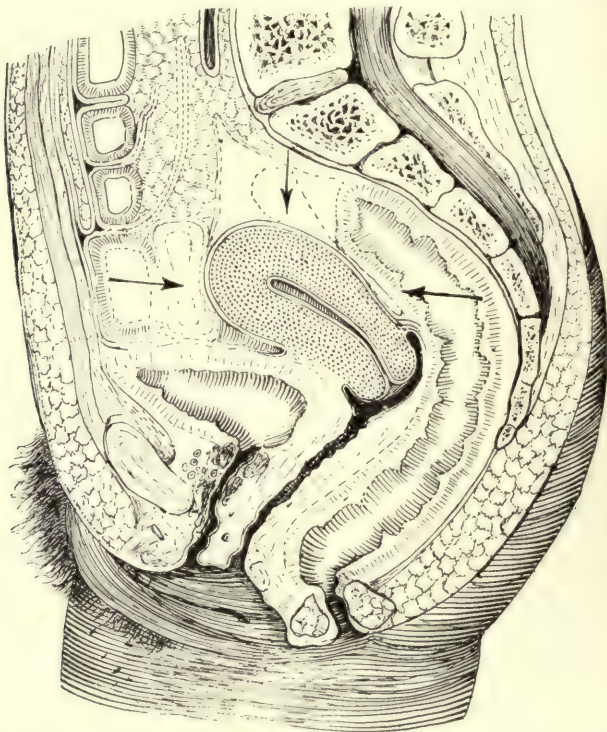


FIG. 62.—Uterus with pressure equal in all directions. Pelvic floor intact.

scribe it as a constant pulling or stretching of the structures of the pelvis.

When no extra pressure is brought to bear on the uterus, it is almost ENTIRELY SUPPORTED, according to Byford, by con-

nective tissue. This tissue has in it muscle fibers, hence it is especially **CONTRACTILE** and **ELASTIC**.

In the treatment of displacements, one of the objects to be attained is restoration to these ligaments and connective tissue,

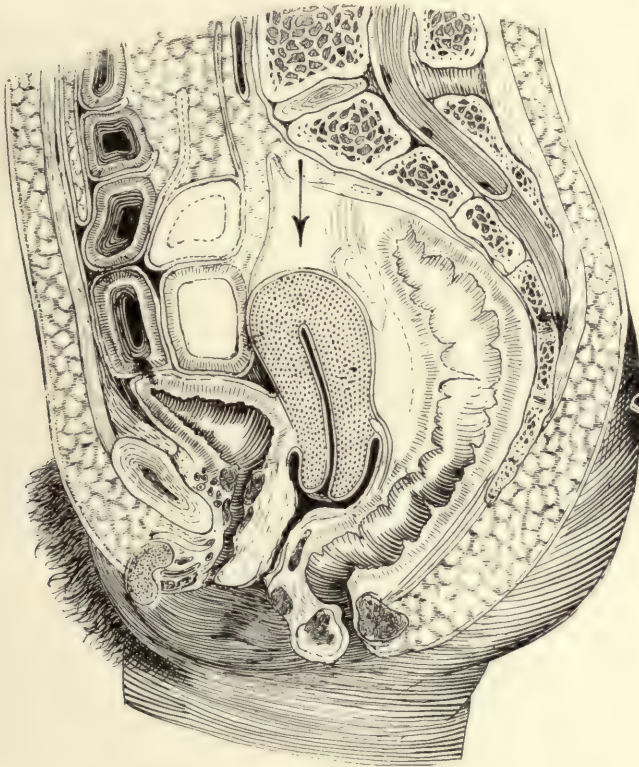


FIG. 63.—Uterus with pelvic pressure exerted downward from lacerated pelvic floor.

of normal tone and contractility. This is accomplished principally by external treatment correcting, and removing the causes that weaken it.

The **pelvic floor**, with its muscles and ligaments, form the REAL SUPPORT of the uterus, not so much by actual contact, the uterus resting on it, but by SECURELY CLOSING THE OUTLET OF THE TRUE PELVIS, thus forming a closed cavity. In this cavity the pressure is equal in all directions as illustrated in Fig. 62. This has been represented by a pail of water; while the bottom of the pail is intact, pressure is as great upon the sides of the pail as on the bottom, but if the bottom were punctured, nearly all the pressure would be downward. "The contents of the pelvis are semifluid and of nearly equal consistence." From this it would seem that the pressure would be about equal in all directions. If the vaginal walls are held closely together the intrapelvic pressure is undisturbed, but if the floor is weakened or the perineal body lacerated, air will probably enter the pelvic cavity thus causing the pressure to be exerted downward.

This is better illustrated by considering that the abdomen exerts a suction FORCE on the pelvic viscera which force is called the **retentive power of the abdomen**. This is illustrated by the physical fact that "in tapping a barrel which is filled with a liquid more than one opening has to be made before the contents readily flow." This is due to air pressure, the sides of the vessel being unyielding to the external air pressure. Thus it is reasoned that the RETENTIVE POWER OF THE ABDOMEN is in proportion to the **strength of the abdominal walls**. The weaker and more relaxed the abdominal walls, the greater likelihood of a DISPLACEMENT, or in other words the ABDOMINAL WALLS FORM, in this way, AN IMPORTANT SUPPORT OF THE UTERUS.

The **vaginal walls**, being a part of the floor, also help to support the uterus. A weakness of the walls is an indication and is a forerunner of prolapsus uteri. In cystocele and rectocele, which conditions are dependent on a relaxed vaginal wall, uterine dis-

placements are almost invariably found. Schultze says, "The muscular and connective tissues of the vagina are directly continuous with the same tissues of the uterus, and the rigidity of the vagina and its immediate surroundings, as well as of the muscular tissues and fascia of the pelvic floor, is an essential factor in securing the position of the uterus."

The NORMAL POSITION of the organ acts as a preventative to displacements in that it is at right angles to the vagina. The pressure of the abdominal viscera forces it farther into anteversion. On account of this fact the position, at least, tends to prevent "FALLING OF THE WOMB" or prolapsus.

In considering the supports of the uterus ALL OF THEM MUST be CONSIDERED together since THEY ACT TOGETHER. Not the pelvic floor alone, nor the ligaments of themselves support the uterus; but the pelvic floor, the ligaments, the intra-pelvic pressure, the action of the intestines, the contraction of the diaphragm and the intra-abdominal pressure, all unite to keep the uterus in its proper place.

Varieties of Displacements. The uterus may be displaced backward, forward, downward to one side or upward, the last named displacement is properly called an ASCENT, or mal-location of the uterus. The writer has seen a few cases of this form, it being a comparatively rare kind of displacement.

The BACKWARD displacements are RETROVERSION and RETROFLEXION. Forward displacements are called ANTEVERSION and ANTEFLEXION. The downward displacement is called PROLAPSUS, or if the displacement is complete it is called PROCIDENTIA. The lateral displacements are called latero-version or latero-flexion; when to the right dextro-, if to the left, sinistro-lateral flexion or version. Often there is a combination of some of these displacements, the most common of which is an anteflexion com-

plicated by a retroversion. The antelexion is usually primary. The walls undergo changes which make straightening of them impossible. If, while in this condition, the patient has a fall or anything which suddenly changes the intra-abdominal pressure, it will cause the uterus to retrovert, although it retains its bent form. On examination the concavity can be felt through the anterior fornix, although the body is back.

GENERAL SYMPTOMS OF A DISPLACEMENT. The most common symptoms which belong to all displacements are BACKACHE, a SENSE OF HEAVINESS in the pelvis and lower limbs, interference with walking or standing, PAIN referred to the pelvic organs and limbs, such as cramping, sciatica and coldness, and MENSTRUAL DISTURBANCES, either dysmenorrhea or menorrhagia. Any displacement affects the pelvic circulation since the uterus is so very vascular and the blood pressure low. The ovaries are very commonly affected by any form of displacement. The characteristic pain or cramp in the region of the ovary is the most important of the symptoms resulting from ovarian disturbances. **Tenderness** is found on palpation of the lower part of the abdomen, particularly in the ILIAC FOSSAE, the sacro-iliac synchondrosis and at or near the spine of fifth lumbar vertebra.

The **reflex** symptoms are HEADACHE, suboccipital and vertical, ACHING BETWEEN THE SHOULDERS, nervousness, SPINAL IRRITATION or tenderness, STOMACH troubles, neuralgias and forms of paralysis, hysteria and neurasthenia. These symptoms belong to nearly all displacements, while special symptoms indicate the particular kind of displacement.

PROLAPSUS OF THE UTERUS. *Prolapsus uteri* is a condition in which the uterus SINKS TO A LOWER LEVEL in the pelvis than is found in a normal subject, which is accompanied by a relaxation of the pelvic floor, prolapsus of the bladder and vagina.

There are several forms which are classified according to their degrees. The MILDEST type, characterized by some retroversion and descent, constitutes the first degree. If the CERVIX APPROACHES THE VAGINAL OUTLET it is called the SECOND DEGREE, and if the uterus is OUTSIDE THE VAGINAL ORIFICE it is called the

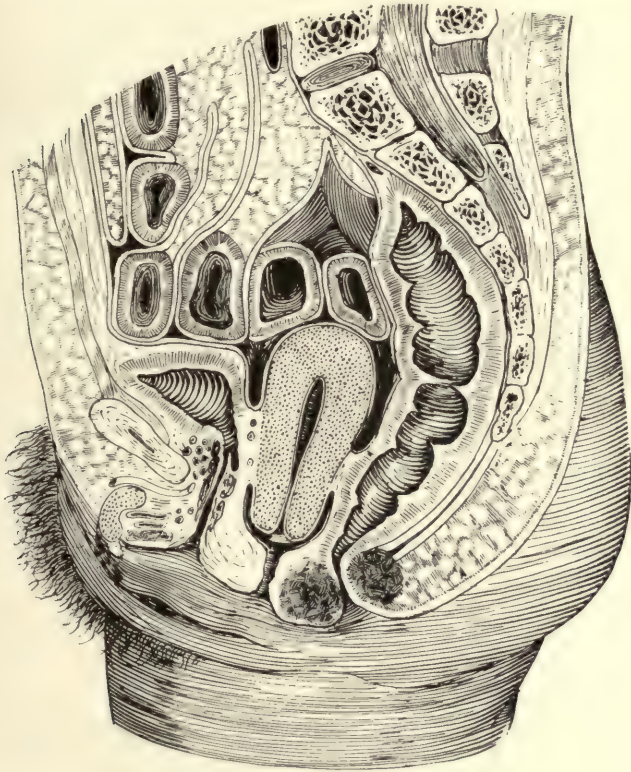


FIG. 64.—Prolapsus uteri.

THIRD DEGREE, or procidentia. These forms or degrees of prolapsus run into each other, it being impossible to differentiate between them unless they are typical forms.

Prolapsus is the most common of all uterine displacements, as well as the first displacement mentioned in literature. Among the laity it is called "FALLING OF THE WOMB," or "FEMALE WEAKNESS" and its importance is understood by most patients suffering with it. Most of them, as well as physicians, so appreciate its significance that almost every conceivable remedy has been applied, ranging from medicinal applications to artificial supports.

Some of the cases of prolapsus are obscure, if examined in the usual way, but if examined in the ERECT POSTURE the prolapsus, as well as the degree can then be definitely ascertained. Prolapsus is nearly always accompanied by retro-displacement, it being almost impossible for the uterus to prolapse without a retroversion, since its axes is at right angles to the vaginal axis and must turn so that the axes will correspond. Retroversion, to such a degree that the axes of the uterus and vagina coincide, is called the first degree of prolapsus. Thus the PATHOLOGICAL EVENTS of prolapsus uteri taken in their sequence are (1) weakening of uterine supports, (2) retroversion of the uterus, (3) descent of uterus, (4) commencing prolapsus of vagina, (5) commencing inversion of the vagina, (6) prolapsus of bladder and (7), the above named conditions gradually increasing in intensity, especially the sinking of the uterus lower and lower until, unless checked, procidentia takes place. There is CONGESTIVE HYPERTROPHY of the uterus, especially of the cervix. In some this is so marked that the term hypertrophic elongation or pseudo-prolapsus has been applied.

CAUSES. Prolapsus uteri is DUE TO ONE OF THREE things; either a **weakness** of the **supports** or **increase** in **size** of the parts to be supported, or sudden increase of intra-abdominal pressure. Thus it may come on suddenly, as a result of a severe

strain or fall, which suddenly increases the intrapelvic pressure.

WEAKENING of the pelvic floor implies that the nerve supply is interfered with, a condition of malnutrition existing. The NERVE supply is principally from the anterior SACRAL nerves, with the PUDIC also sending some branches to it. The pudic nerve being the nerve of sensation in coition, loss of sexual vigor from excessive venery or from a lesion affecting it, will help weaken the floor, since the PUDIC NERVE is DISTRIBUTED TO THE FLOOR. Tracing the sacral nerves to their origin and noticing their relations and where they make their exit, it can be readily seen that a DISPLACEMENT of the LUMBAR VERTEBRAE, SACRUM, INNOMINATE bones, or coccyx, will affect them either by direct pressure or indirectly by muscular contraction. The lumbar region in many is posterior with muscular lesions; in some the spine is rigid, in others unduly relaxed. This relaxation extends to the pelvic structures and abdominal wall. In other cases in which the spine is rigid, the INTERVERTEBRAL DISCS ARE THINNED from pressure and the vertebrae approximated, the latter of which results in a LESSENING IN size of the INTERVERTEBRAL FORAMINA. This condition is soon followed by an impairment of the nerves and vessels in relation, which soon results in paresis or weakening of the pelvic and abdominal viscera.

A weakening of these nerves causes a weakening of the muscles supplied by them, since the strength of the muscle depends upon the amount of the nerve force going to it. Take for instance, an insane man during a paroxysm; it requiring several men to control him, otherwise one man can easily hold him during the quiescent stage. The man has the same muscles during each stage, but the explosion of nerve force in the one, increases to a marvelous extent the muscular power. Applying this to the pelvic floor the muscles may still retain their volume, but if

their food or nerve force is shut off, they weaken, letting to a lower level the parts which should be supported by them. This is the IMPORTANT CAUSE of prolapsus and one not mentioned in medical literature.

The **floor** is frequently injured and weakened by LACERATION during delivery, this laceration usually taking place in the KEY STONE of the pelvic floor, or perineal body. This is a condition that should not be permitted to happen in cases in which no deformity exists, and I consider it carelessness or ignorance if it is permitted to occur. After the perineal body is torn it hinders or prevents approximation of the vaginal walls, permitting air to enter the pelvic cavity, which normally is air tight. Even in coition, or digital examination, no air enters on account of the vaginal walls closing so completely around the part introduced. If this injury exists the walls are separated and the equilibrium of the pelvic contents destroyed, the pressure being exerted downward instead of being exerted equally in all directions. Laceration of the perineum weakens the pelvic floor, since it sets up a congestion or inflammation which disturbs nutrition. The floor is engorged with venous blood, its specific gravity increased and it sinks to a lower level. Prolapsus of the vaginal walls, pulls the cervix down by exerting traction on it. This brings the uterus into a position of retroversion, which position is followed almost invariably by descent or prolapsus uteri.

WEAKENING, with **relaxation** and stretching of the **utero-sacral** ligaments, is one of the most important of single causes of prolapsus. The function of these ligaments is to hold the lower part of the uterus in position, that is up and back. It does this by SUSPENSION; the ligaments being almost vertical, when patient is in the erect posture. When the ligaments relax, the cervix drops forward, and downward, throwing the uterus into retroversion.

This change in the position of the uterus is primary to, and takes place in nearly all cases of retroversion and prolapsus. These ligaments HAVE MUSCLE FIBERS which are supplied by the anterior division of the sacral nerves in relation. Hence lesions, by affecting these nerves, are important causes of prolapsus since their relaxation is due to an impairment of nerve force or nutrition, this being the usual effect of lesions on motor nerves. Kelly has described RELAXATION as the MOST IMPORTANT of all injuries of the perineum and pelvic floor.

Increase in weight of the uterus is a cause of prolapsus. In cases of subinvolution in which the condition has existed for sometime, the continual downward pressure will, in time, stretch and weaken the supports, and prolapsus will result. If the patient, after delivery, gets up before involution is well under way, the uterus, being already in a retroverted condition, will be forced downward, sometimes resulting in a serious prolapsus. In these cases there is also a weakening of the vaginal walls from subinvolution. If in case of parturition the uterus is left in the hollow of the sacrum, the thickened ligaments will become permanently stretched, thus losing their contractile power, leaving the uterus in this retroverted and prolapsed condition.

In FIBROID TUMORS of the uterus it may be forced down by sheer weight, although the tumor sometimes develops upward and draws the uterus with it. The writer recalls a case of a lady sixty-five years of age who suffered with procidentia caused by a subperitoneal fibroid tumor. The tumor caused few of the ordinary discomforts which usually attend fibroids; the uterine displacement with a few pressure pains being the most noticeable.

PRESSURE, exerted on the pelvic contents by the wearing of heavy skirts or tight clothing, produces congestion of the uterus, increases its specific gravity, and as a result, it is forced farther

down in the pelvis. In enteroptosis the condition is similar, that is, increased pelvic pressure and interference with the venous return.

Sudden **falls** or strains derange the intra-pelvic and intra-abdominal pressure and if the bladder is full at that time, it may result in retroversion and prolapsus. One of the worst cases of prolapsus that the writer ever treated was the result of a backward fall, bringing on an ACUTE retroversion and prolapsus. STRAINING AT STOOL also increases the intra-pelvic pressure, and tends to force the uterus downward. This is especially true if done within a few weeks after labor, that is during the puerperium, and constitutes a common exciting cause of prolapsus. The uterus at that time is large and heavy and the pelvic floor weakened, which conditions are aggravated by constipation which usually complicates. With such conditions, straining at stool when patient is in the squatting posture will almost invariably bring on descent of the uterus. To avoid this in a great measure, advise the patient to use a bed pan for several weeks after labor.

A too ROOMY pelvis tends to permit of displacement, descent being the most common. Neglect of the evacuation of the bowels and the bladder increases the tendency to prolapsus whenever the patient strains or carries a heavy weight. **Stooping over a cradle** and repeatedly lifting a large fat baby is ALMOST SURE to PRODUCE DISPLACEMENT of the uterus, if oft repeated, within a year or so after confinement. The condition of the uterine ligaments and supports determines the frequency of it. The awkward position, the strain and the condition of weakness and relaxation of all the pelvic contents, make it possible. Also the stooping posture lessens the inclination or obliquity of the pelvis, thus allowing the abdominal contents to press more directly on the

uterus. Severe paroxysms of coughing or violent action of the abdominal or other muscles, such as in epileptic convulsions, force the uterus down, since such things increase the intra-abdominal pressure.

In certain **occupations** in which the patient is on her feet a great deal and when there is malnutrition and poor air, there is a tendency to prolapsus of the uterus. This is proven by the number of school teachers and shop girls, who have this form of uterine displacement.

Pressure directed on the uterus from above is a prolific cause of prolapsus. This pressure is the result of many causes, belts, tight clothing, and heavy skirts supported by bands are the most important. Waitresses in hotels usually have prolapsus or a backward displacement on account of the way they carry the platters, this tilting the pelvis, thus throwing the strain on the abdominal muscles, which increases the tendency to prolapsus. If the uterus is small and the outlet is large, such as is found in atrophy of the vaginal walls, it may be forced downward. This is a condition found in the aged and is supposed to be due to senile atrophy of the vagina. The writer recently saw a case of complete procidentia which had come on suddenly at the menopause; it caused comparatively little pain, she replacing the organ some ten to twenty times each day. The cervix was so excoriated that it appeared to be of a cancerous nature. This form of prolapsus yields very slowly to treatment on account of the age and the relaxed condition of the supports.

SYMPTOMS. The **severity** of the **symptoms** does not depend upon the degree of the displacement, but on the nervous condition of the patient, mode of onset, amount of inflammation, length of standing and organs involved. I have seen cases of COMPLETE PROCIDENTIA, which CAUSED VERY LITTLE PAIN, while

on the other hand cases of PROLAPSUS of the FIRST DEGREE caused the patient GREAT SUFFERING, and almost unbearable pain and nervousness.

If the prolapsus comes on gradually there are no characteristic symptoms in the early stages. If brought on suddenly the symptoms are acute and demand immediate attention. In ordinary cases the patient complains of sensation of weight or heaviness in the pelvis; this is increased by the patient standing on her feet or walking any distance, and is worse toward evening, that is after standing for several hours. There also exists rectal and vesical irritation produced by the traction exerted on the vesico- and sacro-uterine ligaments.

PAIN is referred to the interscapular region, which increases when the patient uses the arms. This pain is described as an ache which is nearly constant, and is dull in character. The possible explanation of it is that the mammae, which constitute a part of the generative system, are supplied with nerves which have their spinal center in this region; and a disturbance of one part, viz., the uterus, would reflexly affect the other, which in this case is manifest by an ache in the region supplied by nerves which come from the same segment of the cord that supplies the mammary glands. The pain is sometimes transmitted to the limbs, either producing an aching or cramping of the muscles. CRAMPING of the calf of the leg is possibly due to the disturbance of the pudendal branch of the small sciatic, the impulses being reflected over the small sciatic to the calf of the leg where the nerve terminates.

Menstrual disturbances result from prolapsus; MENORRHAGIA being the most common. The uterus is badly congested and the blood circulates very slowly. This surplus of venous blood finds escape at the menstrual time in the form of a menorrhagia.

Not only is the uterus congested but the circulation of the vaginal walls is affected. This interferes with secretion and produces a hypersecretion or leucorrhea. LEUCORRHEA DEPENDS UPON CONGESTION, and since congestion results from prolapsus it is easy to see how naturally leucorrhea, both uterine and vaginal, would accompany this form of displacement. DYSMENORRHEA occurs in some cases, it being due to (1) CLOTTED blood, the uterus having to go into labor to expel the clots, or (2) IMPAIRMENT OF THE EXPELLANT forces of the uterus, or (3) pathological congestion of the uterine substance by which the blood pressure is raised to the painful point, any or all of which occur in typical cases of prolapsus.

Prolapsus of the uterus produces a GENERAL WEAKNESS of the body. This is a result of disturbances of nutrition and loss of nerve force, and partly the result of worrying over the condition, as falling of the womb is a condition which is dreaded by all women.

The patient is unable to exercise without getting greatly fatigued. There is palpitation of the heart, shortness of the breath and inability to lift anything heavy. Rectocele and cystocele often accompany prolapsus, especially if the vaginal walls are very much affected, and they are always affected in cases in which the prolapsus is very marked or of very long standing. These conditions affect the rectum and bladder, often causing painful and severe functional disturbances, such as tenesmus, rectal pain or irritation, coccydynia, and disturbances of defecation.

In procidentia the exposed part may become chafed and irritated from friction of the clothing in walking, causing extreme suffering and giving it a malignant appearance.

PHYSICAL SIGNS. The above symptoms are only indica-

tions of prolapsus, prompting us to make a local examination to clear up the diagnosis. Should there be the first degree of prolapsus, the finger passed up through the vagina, will meet with the cervix low down and in a line corresponding with the vaginal axis. The body will be found backward, indicating a position of retroversion. This is ascertained by PALPATING the BODY OR FUNDUS through the POSTERIOR FORNIX or rectum and BY NOT FINDING the uterus ON PALPATION through the ANTERIOR FORNIX. Also on this account, that is the uterus being back, the hands can be approximated immediately behind the pubes and anterior to the uterus; that is each hand, one being internal and the other external, can be palpated by the other. The vaginal walls are usually very smooth and covered with transverse folds, not rugae.

If the second degree of prolapsus exists, the cervix will be found at the vaginal orifice, which is best ascertained in the sitting or erect posture. The body is turned backward and the upper portion of the vaginal walls rolled downward; the uterus is grasped by the sphincter muscles and in conjunction with the uterine ligaments a complete prolapsus is prevented, unless there is excessive weakness. Complete prolapsus is diagnosed by inspection and palpation. The os can be seen and the different parts of the uterus can be palpated, making the diagnosis certain.

DIAGNOSIS. Any of the varieties of prolapsus may sometimes be confounded with polypi, inversion of the uterus or hypertrophy and elongation of the cervix, which produces a pseudo-prolapsus. In a POLYPUS, the shape and consistency of the presenting body is different and there is the absence of the cervix and os. INVERSION is diagnosed by the absence of the os and cervix, the larger end or fundus, presenting. The COVERING of the presenting part will be different; in prolapsus it is glistening; in inversion it is raw, bleeding and irritable.

Inversion occurs at or immediately after childbirth, the history helping to make a diagnosis. In HYPERTROPHY of the cervix, bimanual examination, and the use of the sound, will clear up the diagnosis. If the uterine canal is found very much elongated it is probably a condition of hypertrophy of the cervix. The diagnosis of prolapsus really depends on locating the cervix at a lower level than normal and finding the fundus backward and downward, this being done by digital and bimanual examination.

THE EFFECT ON THE ADJACENT ORGANS. The ORGANS ADJACENT to the uterus are the bladder, rectum, Fallopian tubes and the ovaries. The bladder is pulled down by the vesico-uterine ligaments until quite a noticeable cystocele is formed. The tension resulting from the continued traction irritates it, and is the cause of frequent micturition. The URETHRA is bent on itself and on this account COMPLETE evacuation of the bladder does not occur at micturition. This is accompanied or followed by decomposition of the residual urine which gives rise to cystitis, pyelitis, or uremic symptoms. Traction is exerted on the rectum by the recto- and sacro-uterine ligaments, producing an irritation which often results in tenesmus. The Fallopian tubes are drawn downward, pulling the ovaries with them. This produces congestion of the ovaries and tubes, causing pain and menstrual disorders. Immediately behind the uterus are the roots of the sciatic nerve, the sympathetic plexuses and ganglia and the anterior divisions of the sacral nerves. The obturator nerve is also near, as well as the secondary plexuses derived from the hypogastric plexus. The ligaments are put on a stretch; and in the case of the broad ligaments, between the layers of which passes all the blood to and from the uterus, a considerable vascular disturbance is produced, usually in the form of a venous congestion. The force exerted by the prolapsed uterus pulling on

the different ligaments produces a PAIN which is referred to the BACK, or pressure is exerted directly on the nerves causing neuralgia, or other disturbances of the limbs. The VAGINAL WALLS are reduplicated, especially so in the worst forms of prolapsus. The pouch of Douglas is elongated and pulled down and with it, in most cases of marked prolapsus, a part of the small intestines and peritoneum, giving rise to a condition called ENTEROCELE. In short, **every adjacent organ** or structure is more or less affected by prolapsus on account of pressure directly on, or interference with circulation and nerve supply, to such adjacent tissues.

The **complications** of prolapsus are congestion or inflammation of the uterus and its appendages, such as metritis, salpingitis, ovaritis and peritonitis. CONGESTIVE HYPERTROPHY occurs in most chronic cases. Cystocele and rectocele are common; sterility, leucorrhœa and disorders of bladder and rectum are found in many cases. SCIATICA is one of the common and disagreeable complications. The lower limbs and FEET ARE COLD and sometimes the ankles are edematous and the veins varicose. The patient complains of a heavy, achy, tired feeling to such an extent that she can with difficulty draw one limb after another.

THE PROGNOSIS depends upon the condition of the uterus and vaginal walls, the character of the complication and whether or not she can take care of herself during the treatment. In long standing cases in which the entire system is poorly nourished, a cure will be slow; in recent cases in which the tonicity of the floor or part of it is retained, the prognosis is better. In cases in which the displacement is the RESULT OF CAUSES WHICH HAVE BEEN IN OPERATION FOR A LONG TIME, the outlook is POOR. In cases in which the trouble came on suddenly, such as the result of a fall, the prognosis is GOOD. In the first class of cases the supports have to be strengthened by correcting the bony lesions, LOCAL

TREATMENT BEING SECONDARY. In the second class of cases a cure is usually effected by SIMPLY REPLACING THE ORGAN. If the vagina is large and the pelvic floor relaxed, the case is a hard one to cure, and especially so if the patient has to be on the feet a great deal. I regard it as one of the **hardest** of uterine displacements to cure; first, on account of the NATURE of the CAUSES, and second, on account of its POSITION, which allows it to drop lower when the patient strains, or from pressure in ordinary respiration, it being acted upon directly by force of gravity. If the cause is apparent the prognosis is more favorable, but in a GREAT MANY CASES the primary cause is obscure, making the prognosis uncertain.

SUDDEN PROLAPSUS may come on from any VIOLENT effort in which the abdominal muscles are forcibly contracted, or if the intra-abdominal pressure is suddenly increased from any cause whatever. If the uterus is diseased or the supports weakened, a sudden displacement will usually take place if the patient has a fall or lifts any heavy weight. In an instant the patient feels that something has given away within her, becomes prostrated and suffers pain of an EXPULSIVE character. Sometimes the stomach will be affected reflexly, causing nausea and vomiting. If the displacement is not corrected at once, the irritation will spread to the adjacent parts and inflammation, such as peritonitis, will set in with its attending evils.

TREATMENT. In taking up the treatment of prolapsus, the prophylactic treatment will be considered first. The prophylactic treatment of prolapsus of the uterus is one directed to prevent its occurrence. In order to prevent prolapsus, the pelvic floor and other supports must be KEPT INTACT and the UTERUS PREVENTED FROM BECOMING TOO HEAVY.

The FIRST is accomplished by PREVENTING LACERATION and

injuries during childbirth. CORRECT ANY BONY DISPLACEMENT as soon as it occurs, this preventing an impairment of the nutrition of the pelvic floor. Avoid use of WARM WATER douches, or in fact avoid frequent douching of any description. Take plenty of exercise with deep breathing; respiration affecting to a marked extent the pelvic circulation. Avoid lifting heavy weights or straining the abdominal muscles, especially if the patient is not very strong. The carrying around of a large overgrown baby has broken down the health of many a mother. Avoid wearing heavy skirts supported by bands encircling the waist. AVOID tight clothes, they interfere with deep respiration, mechanically obstruct the blood flow, and cause weakening of muscles of both the back and abdomen. Have the patient attend to the calls of nature; this will prevent displacements which would otherwise tend to occur. The straining at stool in a constipated condition of the bowels, forces the uterus to a lower level, and if the constipation exists for any length of time the uterus will prolapse. Care should be taken that the patient does not walk too much, or stand on her feet too soon after delivery, this interfering with involution of the uterus and its appendages.

The object to be attained in the treatment of a prolapsus after it has occurred is, first to REPLACE it, and second to KEEP IT IN POSITION. Sometimes palliative treatments are indicated when it is impossible to replace or keep the uterus in place after it is once corrected.

REPLACEMENT. Generally, little difficulty is experienced in replacing a prolapsed uterus unless there are obstructions such as adhesions, tumors or inflammatory conditions which hinder.

The contra-indications to, or conditions which make replacement impossible or difficult, are, inflammatory conditions

of the vagina, uterus or its appendages, pelvic peritonitis and cellulitis, adhesions and pelvic growths. If adhesions exist, and this can be ascertained if there is limitation of motion in a certain direction or by feeling the adhesive bands, care should be used, since a hemorrhage followed by inflammation will result, if they are forcibly broken up.

In replacing any of the various forms of uterine displacement, have the patient ASSUME A POSITION so that the FORCE OF GRAVITY will help in the reduction. In backward displacements the best position for their correction is the **semi-knee chest** which is obtained by placing the patient on the left side, then raising the hips to an angle of 45 degrees or more. The hips can be held by the operator's knee or by other support, such as a pillow. This position permits of local vaginal work, the use of two hands and force of gravity. In cases OF PROLAPSUS, since there is also retroversion, it is advisable to place the patient in the semi-knee-chest position; the uterus then having a tendency to spontaneous reduction, since this causes the pelvic and abdominal viscera to gravitate toward the diaphragm, this relieving the pressure on the uterus. A hard unyielding table is best; the knees sinking in, hindering the operation if a soft yielding bed is used; the object being to elevate the hips, and depress the chest as much as possible.

Use gentle manipulation over the abdomen for some five or ten minutes if the pelvis is much congested or inflamed, before attempting to reduce the displacement, by which the viscera are pulled out of the true pelvis and the space anterior to the uterus. This allows the blood, on account of the changed position, to DRAIN OUT of the uterus; it always being full of blood when in a prolapsed condition. While in this position, the index finger or both index and middle fingers, are introduced as far as the va-

ginal junction. By separating the two vaginal walls, air enters the vaginal canal and by means of a slight pressure on the posterior part of the uterus, and backward traction on the cervix, it will assume its normal position, unless held by adhesions or caught behind the promontory of the sacrum. No violent or sudden force should be exerted, but a steady pressure by which it is GRADUALLY pushed into place. When two fingers are used make pressure with the middle finger in the posterior fornix upward and forward, and with the index finger exert backward traction on the cervix. In this way the uterus if it has retained its tone, is pried into normal position. If the uterus is soft and flexible so that it bends instead of turns, pressure with the internal finger should be made high up in the posterior fornix. With the external hand make deep pressure over the abdomen, finally getting the hand back of the uterus and the fingers of the two hands approximated. This is accomplished best by beginning the EXTERNAL PRESSURE HIGH, that is on a LEVEL with the SACRAL PROMONTORY. After the fingers are approximated, lift the uterus upward and forward, thus carrying it into normal position. This can only be done in subjects that are comparatively free from pelvic inflammation and are not too obese.

In the above methods it is not advisable to balloon the vagina before replacement; since by so doing the uterus may be forced to the hollow of the sacrum, that is in extreme retroversion with anteflexion; it accommodating itself to the shape of the anterior surface of the sacrum, from which position it is hard to remove. MANY AN ERROR has been made in not observing the above, since the physician thought that he had replaced the organ when he really had exaggerated its abnormality.

To clear up the diagnosis and ascertain whether you have really replaced the organ, examine the patient in the latero-prone

position a short while after the attempted replacement. It is a good practice after it is replaced to let the patient lie on the side or in the ventral position for some time until the ligaments contract to hold it in position. The best time to correct this form of displacement, as well as any retro-displacement, is just before retiring. If it is replaced at such a time and the patient remains in the ventral or latero-prone position over night, the uterus will become accustomed to the change and remain in the normal position for a longer length of time.

Again, if the patient will assume the genu-pectoral position every night just prior to retiring it will help to relieve the congestion, lessen the pain and assist in the reduction of the displacement. In ordinary office practice it is useless to push the uterus upward by means of the end of the finger unless the parts are prepared to hold it, since as soon as the patient stands erect it drops down into a position as bad as it was formerly. Treatments, as are ordinarily given while patient is in dorsal position, are worse than useless; they even doing harm in some cases by constantly irritating the parts.

After reposition of the organ, it should be raised as high up as possible out of the pelvis. This is accomplished by introducing the right index finger into the anterior fornix, then by approximating the internal and external hand, the uterus can be caught between the two and lifted quite high in the pelvis. Gentle ~~massage~~ massage of the uterus and ligaments is beneficial while in this position. Brandt claims to have cured from 70 per cent. to 80 per cent. of all cases, in from two to six weeks by a system of massage of the uterus. The principle of it consists of grasping the uterus, and while the cervix is steadied and held with the internal hand, the fundus and body are thoroughly massaged and kneaded with the external hand. This is repeated as often as

the patient can stand it. The treatment is good in chronic adhesions of the peritoneum surrounding the uterus.

Another method of replacement is by means of the wire uterine repositor invented by Dr. Still. (See Fig. 65). It con-



FIG. 65.—The wire uterine repositor.

sists of a wire, bent in such a manner that it will encircle the cervix, attached to a handle which is almost at right angles to the larger end or part introduced into the vagina. It is introduced like a speculum, and by inserting the right index finger, the cervix can be located and the loop of the instrument adjusted around it. After it is in position, turn the patient on the right side, facing the operator, and gently pull toward you. The "Old Doctor" says, make the umbilicus the objective point, that is, pull toward it. While doing this the air will enter the vagina between the two strands of wire which form the handle, they being slightly separated. On account of the angle formed by the handle and the loop, the handle corresponds in direction to and is parallel with, the uterine axis. By gently pulling the instrument toward you, the uterus sinks farther down into the loop, and on account of this not only prolapsus, but flexions and versions can be straightened. In its introduction, remember the direction of the vaginal canal, otherwise you may find it difficult to introduce or you may injure the anterior vaginal wall. After the uterus has been lifted up, hold it there for a short time until the venous drainage is well established, then remove instrument in the reverse manner of introduction. In withdrawing

the instrument be careful to first FREE IT FROM THE CERVIX. To make sure that the cervix is entirely out of the loop, it is best to

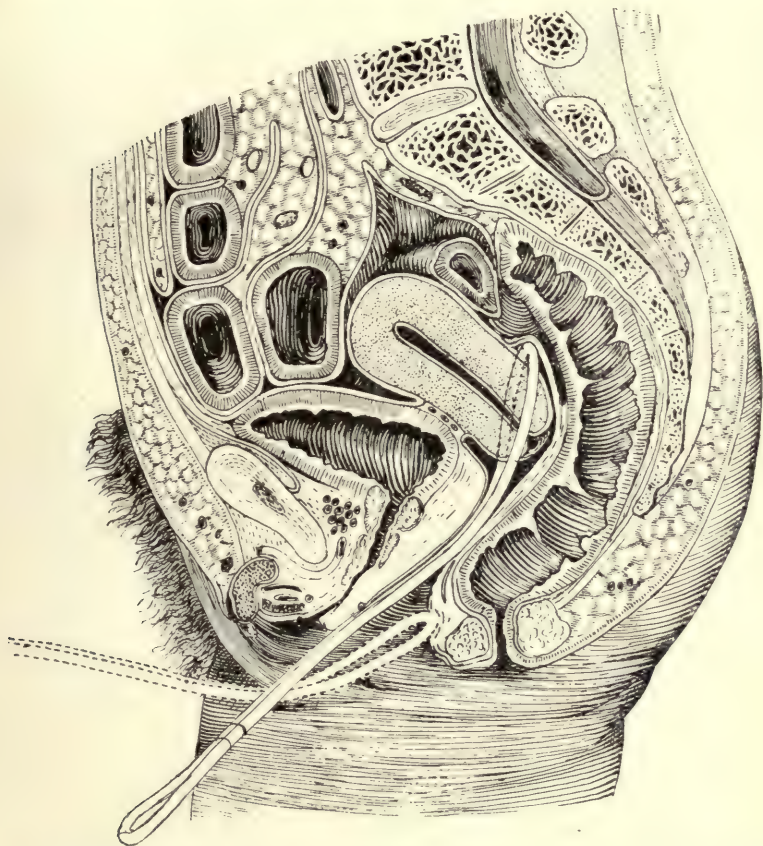


FIG. 66 —Showing manner of introduction. Note the direction of loop and handle.

INTRODUCE THE FINGER, which can be used as a GUIDE in detaching the instrument, and in ascertaining whether or not the cervix is entirely removed from the loop. If the loop still encircles the cervix at the time of the attempted removal, the cervix will

be pulled forward and the uterus thereby displaced. This INSTRUMENT IS TO BE RECOMMENDED ESPECIALLY in the treatment

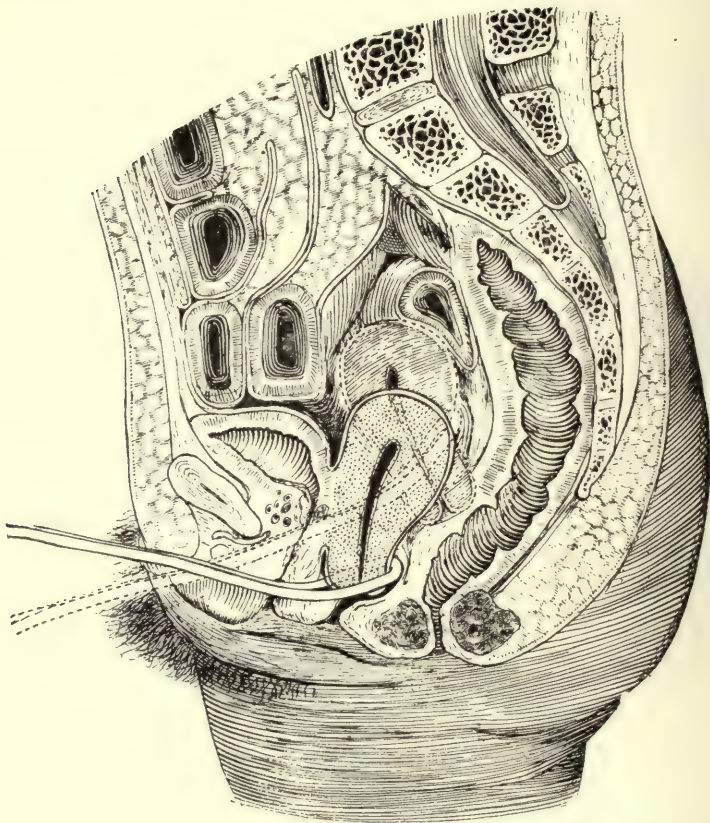


FIG. 67.—Showing adjustment and movements in replacing prolapsus with wire repositor. The dotted lines show direction handle takes and effect on uterus.

of prolapsus, since there is very little danger of injuring any of the parts, the instrument being perfectly smooth.

The **sound** is used by some in replacing a prolapsus, but I think it should be avoided if possible, all other methods being employed before resorting to its use. The uterus can be replaced by using the sound, but I believe injuries, producing conditions even worse than the prolapsus, have followed its use, such as puncturing the walls or bruising the endometrium. Reed says, "The old practice of introducing a curved uterine sound and turning it around in the uterine cavity, thus forcing the uterus into position, has been denounced by intelligent gynecologists and abandoned by conservative practitioners." The use of the sound is permissible in partial inversion of the uterus after childbirth, provided a large one is used. In prolapsus, if used at all, the sound should be the largest that can be introduced. In fact a sound smaller than little finger should not be introduced into the uterus on the account of the likelihood of puncturing the wall. A sound of the above mentioned size, is not likely to injure or perforate the weakened uterine wall.

The **second indication** in the treatment of prolapsus is to **keep** the uterus **in position** after it is replaced. This can be done in one of two ways. **FIRST**, by decreasing the weight of the uterus; and **SECOND**, by strengthening the supports; the causes of the condition being, increased weight of or pressure on the uterus, or a weakening of the **SUPPORTS** viz., the pelvic floor.

If the uterus is too heavy and pushes the floor downward, the weight is due to a growth on it or an increase of intra-abdominal pressure or a congestion, it is too full of blood. This congestion can be relieved by removing obstructions to the venous drainage.

This is accomplished in part by correcting a prolapsed diaphragm. In this condition the lower ribs are involved, drawing the diaphragm down with them. This causes obstruction to the vena cava at the point of passage through it, and the blood

is retained in the pelvic organs. Lift up the intestines that have been wedged and packed in the pelvis; this condition interferes with the return circulation. Work over the iliac veins and vena cava to remove any obstruction at those points to the free venous drainage and to restore tone to the walls of the veins; correct any lesions that are found which affect the vaso-motor supply to the uterus. Frequently a lesion is found at the sacrum, or there is a twisted pelvis or slipped vertebra, which interferes with the vaso-motor nerves, shutting off a part of the nerve force, thus causing a relaxation of the vessels supplied by them; the most common and important lesion is the lumbar subluxation by which the uterine vaso-motor centers are disturbed.

TIGHT CLOTHING, especially constricting bands, should be forbidden, as they interfere with the return flow of blood; the weight of the clothes should be supported from the shoulders by some kind of skirt supporter or suspenders. The patient should be on her feet as little as possible especially at the menstrual period, since the uterus is more congested, hence heavier at that time than at any other. Any occupation involving being on the feet, reaching upward or lifting weights should be given up, at least for a while. As mentioned before, the best time to correct this form of displacement is in the evening, for the treatment can then be followed by rest. This permits of a better circulation through the uterus, from which the ligaments strengthen and CONTRACT and the uterus becomes accustomed to its new position.

Attempts have been made to lighten an enlarged uterus, due to hypertrophy of the cervix, by amputating the cervix. This is a method which should not be resorted to since it is productive of so little good, and in a great many cases of so much harm. It is treating the result of the disease, not the cause.

THE SUPPORTS of the uterus can be strengthened in several ways. The osteopathic method is to locate the lesion that interferes with the nutrient supply to the structures composing the pelvic floor. All NERVES must be FREE FROM PRESSURE or else their function is deranged. This pressure usually occurs at the foramina at which they make their exit. Slips of the vertebrae, however small, will bring pressure on these nerves; either directly by the bone itself, or indirectly by muscular contraction. This shuts off a part of the nerve force, depriving the muscles of their proper nerve energy, hence loss of tone must follow.

A DISPLACED SACRUM is really one of the most important of bony lesions, interfering with the nerve supply of the pelvic floor. The form of the displacement that is most frequently found, is a tilting or rotation by which the upper part is thrown forward and the lower part backward; or else a downward displacement in which it is wedged between the innominate; also the sacrum may be rotated backward until it is almost vertical. The coccyx being movable, is drawn under or forward by the muscles attached to it. The innominate bones are partly dislocated on account of the disturbance of their articulation with the sacrum, and the equilibrium of the pelvis affected.

In general the abnormality is usually found in the bony framework, since without a perfect adjustment of these bones, the supports of the uterus can not be permanently strengthened. Remember that each case is different; only a general rule can be given. When these displacements are corrected, nutrition to the pelvic floor will be restored; when this is accomplished the uterus will be, in a great many cases, gradually drawn back into its normal place without the aid of a local treatment.

In addition to the correction of the lesions as mentioned, CERTAIN EXERCISES are of value in strengthening the pelvic floor,

Separation and approximation of the knees against resistance are very good. The forcible adduction is accompanied by prolonged and forcible contraction of the levator ani muscle, especially when the patient at the same time raises the hips. As a result the lumen of the vagina diminishes in size, the uterus is forced upward to a certain degree and later on, after the exercise has been pursued for quite awhile, the uterus is maintained in a better position. Another exercise called the "RESTRAINING MOVEMENT" is of great value in strengthening the pelvic floor. It consists of forcible contraction of the sphincters and levator ani muscles, as in cases of threatened defecation. These exercises develop the muscles that are used. The muscles of the pelvic floor form the main supports of the uterus; hence the condition of these muscles determines the condition of the floor and upon it depends the position of the uterus.

ARTIFICIAL PERINEAL supports have been used in connection with abdominal supports. By the application of pads suspended from the waist, firm pressure is brought to bear on the weak points of the pelvic floor. This theory will seem plausible at first, but after a second thought it will be seen that it is wrong. As soon as nature realizes that a part is SUPPORTED ARTIFICIALLY, ATROPHY of the natural supports will result, since they would no longer be of use. Instead of increasing the strength of the natural supports, these artificial means both weaken them and prevent their development, and when the practice is once begun, it will be necessary to keep it up, for the supports of the uterus grow weaker the longer their function is subserved.

ASTRINGENTS applied to the vaginal walls have been used for the purpose of strengthening them and thus support the uterus for a time. Tannin, alum and persulfate of iron have been used, but I fail to see how any curative or permanent value re-

sults from their application. It is applying the treatment to the wrong end of the disorder; the symptom instead of the cause. In order that the supports be strengthened, and this will have to be accomplished if you realize a cure, they must be nourished and strengthened by a natural process, or in other words, there must be a good blood supply. It is admitted by all that there is NO NOURISHMENT IN THE ASTRINGENTS MENTIONED, and they do no good except that they produce a temporary contraction of the mucous membrane of the vagina, which soon disappears, leaving the walls flabbier than they were before the astringents were used.

PESSARIES. The pessary, (from a word meaning an oval shaped stone,) is an instrument placed in the vagina to hold the uterus in position. There are a great many different kinds, both as to shape and material from which they are made. They are constructed so that they will encircle the cervix and by resting on the vaginal wall, principally the posterior, act as an artificial support. The same remarks might be applied to the use of pessaries that were made in reference to the use of perineal supports, viz., they weaken the natural supports, and once their use is begun, the patient can not very well get along without them. A great many cases come to me for treatment that have been wearing a pessary for years. The PESSARY IS A FOREIGN BODY. It will be a source of irritation if placed in the genital tract. This irritation disturbs the blood supply, producing congestion and in some cases inflammation. In cases in which they have been worn for some time, the patient invariably has METRITIS or VAGINITIS with a LEUCORRHEAL DISCHARGE, which accompanies a congested condition of the genital tract. The question is often asked me, "should a pessary be removed when a patient comes to an osteopathic physician for treatment?" This is a question that confronts us all and one that is hard in some cases, to answer.

Suppose a woman had worn one for years—what would be the condition of the vagina and uterus? They would certainly be very weak and flabby, especially the vaginal walls. In such a case I WOULD ADVISE THE REMOVAL of the pessary IF THE PATIENT CAN POSSIBLY DO WITHOUT IT. Its presence hinders the strengthening of the parts, impairs nutrition and disturbs circulation and should be removed at once if a cure is to be hoped for. However, if the patient on removal of the pessary, has a great deal of pain, locally or reflexly, or by removal, it produces great weakness or nervousness, it should not be left off too abruptly; but gradually get the patient to do without it by having her leave it off as long at a time as she can.

To the osteopath, the pessary is an unnecessary article and its use not indicated. Even the medical authorities are beginning to discard it. Reed, in speaking of their use, says, "so much manifest injury comes from their employment that it has been very largely abandoned." Byford says, "Pessaries are as a rule more harmful than beneficial. The only indication for them is to support the uterus so as to prevent traction upon the tender sacro-uterine ligaments or peritoneal adhesions and a tampon answers the purposes better." In cases in which there is senile atrophy of the vaginal walls, there is prolapsus, but as a rule it does not produce as many and bad symptoms as it does in young subjects. I relieve most of these cases without resorting to the use of the pessary, and if its use is indicated in any kind of case, it certainly would be in this kind. I have treated patients sent to the A. T. Still Infirmary who had worn a pessary so long without removing it, that it had buried itself in the vaginal walls and was partly destroyed by the discharges. If one is worn at all it should not be for more than a day or so without removal.

The STEM PESSARY has been worn for prolapsus. It is so

arranged that a stem is introduced directly into the cavity of the uterus, and is retained in position by various bands which encircle the waist. This kind of pessary is certainly a BARBAROUS way of exciting endometritis and I am glad to say, this form is fast becoming obsolete.

VAGINAL **tampons** are sometimes used by the osteopaths in cases in which the uterus CAN NOT be kept in place and the displacement CAUSES EXTREME PAIN. The common tampon is made by taking a piece of absorbent cotton, or better, lamb's wool, some four inches wide by eight inches long, covered with glycerine and then folded into a wad approximately two inches long by one, to one and one-half inches, in diameter. A string is tied around it by which it may be removed. After lubricating the tampon and fingers with glycerine it is introduced without the use of the speculum while the patient is in the Sims or knee-chest position. While the patient is in this position, the shoulders being lower than the hips, the intestines drop downward and the vagina is ballooned. This permits of easy introduction of the tampon and at the same time the uterus is as high as it can be placed; thus a tampon properly placed will hold the uterus well up in position. One is usually sufficient, although two may be used. If it is a case of retroflexion it is placed in the posterior fornix. In retroversion, two are used; one is placed in the anterior fornix, thereby forcing the cervix back, or rather preventing it from going forward, and the other, in the posterior fornix, high up against the body. If the uterus has retained its tone, retroversion can be corrected so long as the tampon is worn, which should not be longer than 36 hours without change.

Some advise replacing the uterus after, instead of before, the introduction of the tampon. By temporarily supporting the uterus in this way the irritation is lessened and the uterus held

in position, thus allowing the blood to drain out. In using the ordinary type of tampon, the one described above, if large enough to distend the orifice of the vagina, and usually it is, **CONSIDERABLE DAMAGE MAY RESULT**. The repeated downward pressure or traction on the vaginal walls has a tendency to pull the uterus to a lower level in the pelvis, instead of supporting or pushing it higher.

The **CHAIN TAMPON** is the best form. It consists of several little tampons tied together at an interval of about four inches. On account of their size and number they can be so placed that pressure is exerted on the cervix or body, or in fact the uterus can really be supported when they are properly placed and packed. In prolapsus several can be packed behind the uterus, one in front of the cervix and one under the end of the cervix.

Another type, recommended by some, consists of a long narrow roll of lamb's wool or cotton. With such a tampon it is comparatively easy to pack the fornices. It is removed by attaching a string to it and leaving the end protrude from the vagina. Although they are rarely resorted to, yet I think they are beneficial in some forms of prolapsus.

OPERATIVE means are most frequently resorted to at the present time **BY SURGEONS**, to cure prolapsus of the uterus. One method is to resect a portion of the vaginal walls, stitch the edges together and thus produce a narrowing of the vaginal canal. It also forms scar tissue in the walls which increases their rigidity. This operation generally fails because it does not restore the **NORMAL ANGLE** between the vagina and uterus, and any pressure forcing the uterus downward will **RE-DILATE** the vaginal canal. The operation is called **colporrhaphy** or **elytrorrhaphy**.

Another method is to stitch the uterus to the abdominal wall; the operation being called **abdominal fixation** or **hysterorrhaphy**. The dangers, if impregnation occurs, are **ABORTION**,

HYPEREMESIS and dystocia, all of which result from the adhesion uniting the uterus to the abdominal wall, preventing the uterus from assuming a normal position or size after impregnation. Also the dangers attending any laparotomy accompany ventro-fixation. Other operations have been resorted to, among which is ALEXANDER'S OPERATION for shortening the round ligaments. These operations should, ordinarily, not be resorted to, on account of the risk, the uncertainty of a cure or even of helping the patient, until a fair trial has been given the case by osteopathic methods.

According to some European statistics, regarding operations for prolapsus, over thirty per cent. of all cases are complete failures, however, the American statistics do not show such a high per cent. of failures. The osteopath has a reputation of PREVENTING OPERATIONS, this being one way by which an improvement has been made upon surgery.

ANTEVERSION OF THE UTERUS. Versions and flexions are determined and named from the position of the fundus and its relation to the cervix. When the fundus is forward it is known as an anteflexion or anteversion; when backward, retroversion or retroflexion. By VERSION is meant a ROTATION of the uterus on its transverse axis. This axis passes through the uterus at the junction of the cervix and body. A flexion is a bending of the uterus on its long axis, which corresponds to the long diameter of the uterus. ANTEVERSION of the uterus is a condition in which the uterus is turned forward to a pathological degree.

The uterus normally is in a position of anteversion and slight anteflexion, but if this is increased so that if the ANGLE formed between the vaginal and uterine axes is less than a right angle ACCOMPANIED BY BLADDER SYMPTOMS, it is regarded as pathological. If the uterus is in a normal position, its axis corresponds to

a line drawn from a point midway between the symphysis pubis and the umbilicus, to the hollow of the sacrum, this line varying

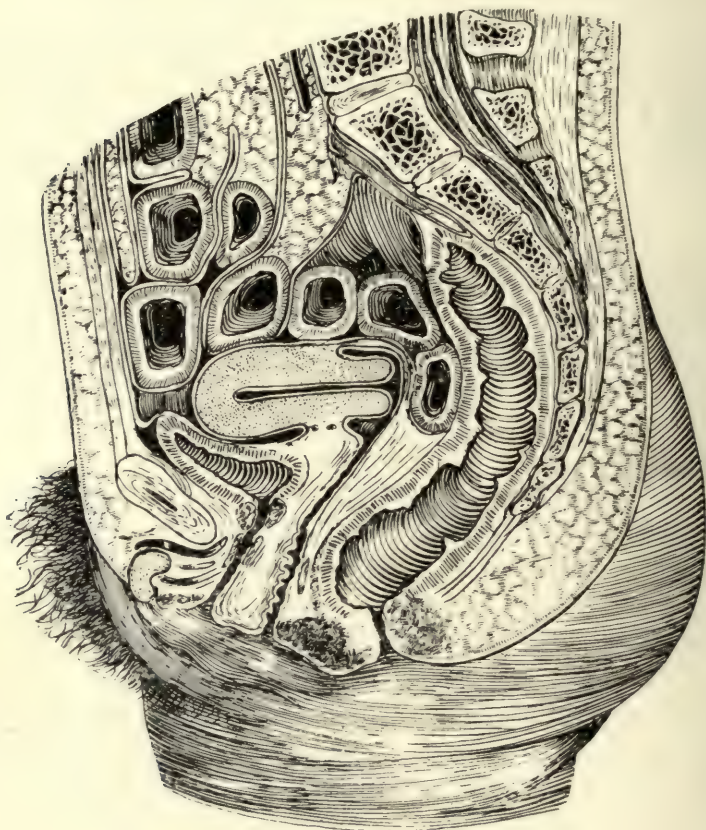


FIG. 68.—Anteversion of the uterus.

a trifle in distended or collapsed condition of the bladder. Since the line of demarcation between the normal and abnormal can not be definitely located or fixed, experience has to be relied upon. In

GENERAL terms, it might be stated that when the long axis of the uterus is found lying across the pelvis, the fundus behind the symphysis and resting on the bladder, and the cervix very high and pointing to the hollow of the sacrum, **pathological anteversion** of the uterus exists.

An anteversion presupposes an increase in size, such as hyperplasia, chronic metritis and subinvolution, especially of the fundus of the uterus; while anteflexion indicates atrophy, weakening and malnutrition of the entire uterus, but especially at the point of bending, on which account a FLEXION is regarded as a WORSE DISPLACEMENT than a VERSION, and anteversion in particular. In a version the TONICITY OF THE UTERUS IS RETAINED to a certain degree, this permitting of a turning instead of a bending, such as we find in flexion .

In version the direction of the cervix is always changed as well as the direction of the uterine axis. In flexion the cervix is seldom displaced, but the uterine axis is bent on itself. Anteflexion is often associated with anteversion, the mobility at the angle of flexion usually being increased.

CAUSES. ANY DISORDER that INCREASES THE WEIGHT of the uterus with retention of tone, unless there is at first a backward displacement, will produce anteversion. The most common cause found is INFLAMMATION OF THE UTERUS. Since an inflammation is always preceded by a congestion, we must find the cause of the congestion in order to treat it intelligently. This congestion may be produced, as mentioned under the head of prolapsus, by any obstruction to the venous return or vaso-motor disturbances produced by lesions affecting the vasomotor centers of the uterus. In SUBINVOLUTION there is congestion of the uterus, this sometimes producing an anteversion, it depending on the position and degree of subinvolution; but usually a retro-

version or prolapsus is the result on account of its position, the uterus being back, as a result of the relaxed condition of the ligaments following childbirth. PRESSURE on the uterus from above, produces a disturbance in the circulation, increases its weight; this resulting in anteversion in some cases. In case there is a weakened condition of the uterine supports, the uterus, especially the fundus or heavy end will sink to a lower level, if the uterus is in normal or nearly normal position. The writer recently treated a case of this kind. Multipara, patient anemic and very weak. The uterus was very large and if the patient was on her feet for any length of time, the fundus would fall farther forward and downward and would cause considerable distress until replaced. The anterior vaginal wall was very weak, resulting in a cystocele, this contributing to a general weakness and helping to cause the displacement.

NEOPLASMS on the posterior wall of the uterus, force it down into a position of anteversion. Bladder disturbances of all varieties complicate such conditions. In such cases the uterus can be pushed up but immediately descends to its former position when pressure is removed.

During the early months of pregnancy, the uterus is pushed forward and downward on the bladder; however, anteflexion is more common than anteversion. Contraction of the utero-sacral ligaments pulls the cervix and lower part of the body higher up into the hollow of the sacrum; and if there is a shortening or contraction of the round ligaments at the same time, anteversion will occur. Adhesions between the anterior wall and bladder will pull the fundus lower, since all scar tissue contracts during its formation. The causes of these adhesions can be traced back to a metritis or inflammation of the peritoneum which as mentioned above, are the principal causes.

SYMPTOMS. THERE ARE NO SYMPTOMS CHARACTERISTIC OF ANTEVERSION, PER SE, they being associated with the complications produced by the displacement. As in all displacements, there is a sense of weight, fullness, and of distress in the pelvic cavity. In most cases there is a SETTLING OR SINKING OF THE UTERUS, this explaining many of the symptoms attributed to anteversion. **Pain** is present over the uterus and is reflected to the symphysis and lower lumbar region. The **BLADDER** is irritated by the pressure exerted on it by the uterus and **frequent micturition** is the result. This pressure, if exerted for any length of time, and especially if there is an inflamed condition of the uterus, may set up a **CYSTITIS** or inflammation of the bladder. In some cases this is so marked that mucous plugs lodge in the urethra and when expelled, give rise to an **INTENSE GRIPING PAIN** and followed by marked sediment in the urine, with strong odor and deposit of pus in variable quantities.

Pressure of the cervix on the posterior wall of the vagina is frequently the cause of a leucorrheal discharge, and the pressure against the rectum results in disturbances such as tenesmus or a painful, irritable state, which is exaggerated during defecation. Further, we may have a train of general symptoms which generally follows any long standing displacement or irritation of the pelvic organs; to wit: **DERANGEMENT OF THE DIGESTIVE TRACT AND THE NERVOUS SYSTEM.**

DIAGNOSIS. The **DIAGNOSIS** is made by **LOCATING BOTH ENDS** of the uterus, there being little trouble in accomplishing this. On local examination, the cervix can be felt high up toward the hollow of the sacrum. The Sims position is to be preferred, since in this position, examination can be made higher up the vagina than in the dorsal position, it being very difficult or impossible to reach the cervix with the examining finger while the

patient is in the dorsal position. The anterior fornix will be found to be shallow and very much widened, the posterior fornix is decreased or entirely obliterated, this depending on the degree of displacement. A hard body can be plainly felt through the anterior fornix; this is ascertained, by a conjoined manipulation, to be the BODY AND FUNDUS of the uterus. The fundus cannot be palpated through the abdomen unless pushed up by the internal finger, it lying behind the symphysis pubis and on the bladder. The bladder should be empty when the examination is made, since this will assist in the conjoined manipulation. The uterus will be found enlarged and of firm texture. The **mobility** should be tested and the presence or absence of adhesions ascertained. The POSITION of the CERVIX, it being high and pointing up and back; the ABSENCE of a MARKED CURVE of the anterior wall of the uterus, as is determined by palpation through the anterior fornix, DIAGNOSE ANTEVERSION from ante flexion. If a tumor exists on the anterior wall the diagnosis can be made by locating the fundus by the bimanual method, it being in about its normal position, or if DISPLACED it will be a retro-deviation. In cases in which there is much inflammation which prevents a complete vaginal examination, the rectal method enables us to ascertain that the uterus is at least not in retroversion and lying back against the rectum. An ANTEVERSION may be MISTAKEN for a congenital RETROFLEXION if only the position of the CERVIX is relied on in making the diagnosis; but a rectal or bimanual examination will clear up the diagnosis.

TREATMENT. The **treatment** indicated in most cases, is one directed to RELIEVE the CONGESTION or INFLAMMATION of the uterus, since these conditions are found in the majority of cases, and are the most important of all indications. Sometimes these conditions are causes, but usually are secondary or the result of

the displacement. If the uterus is turned forward, it certainly will TWIST and put a TENSION on the broad ligaments; the blood vessels being located between the two layers, this tension then forms an obstruction to the circulation. In order TO RELIEVE this twisting, the UTERUS MUST BE REPLACED.

Replacement is generally accomplished by placing the patient in the dorsal position, sometimes elevating the hips by placing the knee or a pillow under the patient; introducing the index finger, or better, two fingers, into the vagina and locating the anterior fornix. By exerting pressure through this, and pulling downward and forward on the cervix, the fundus can be pushed or pried out of the pelvis high enough to be grasped by the external hand; thus having it between the two hands it can be readily pushed into place. This is readily accomplished in a thin subject, but in an obese patient you will have to rely on the vaginal treatment alone. The uterus can not be felt through the anterior abdominal wall, in patients that are very obese, since with difficulty can it be palpated in this manner in ordinary cases in which the abdominal wall is only slightly thickened.

In the unmarried in which class of cases a local treatment should be avoided as long as possible, upward manipulation applied to the abdomen at a point just above the symphysis pubis, with the hips elevated, will often correct the displacement without a local treatment; but this applies better to an ante flexion than to an anteversion.

The wire uterine reposer invented by Dr. Still can be used to good advantage in cases of anteversion. By the additional reach obtained by its use, the cervix can be readily manipulated while the patient is in the dorsal position. By depressing the handle slightly downward and forward, the loop having been placed around the cervix, the uterus can be rotated into position. (See Fig. 69.)

A sound has been used for replacing an anteverted uterus, but I think its use is not indicated in any case, on account it being

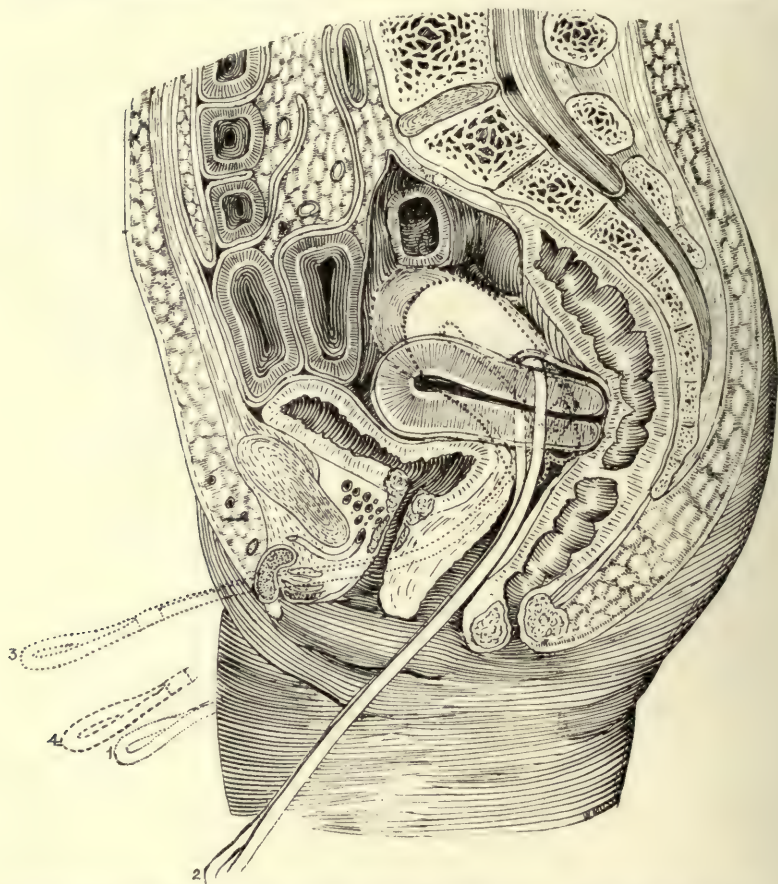


FIG. 69.—The use of the wire uterine repositor in anteversion. 1, introduction; 2, adjusting; 3, first movement; 4, direction of handle when operation is completed.

hard to introduce one without injury, and since the uterus can be readily replaced without it.

Just as soon as it is replaced, the congestion begins to disappear and the bladder symptoms leave, and the patient feels a

great deal better in every respect. If the patient is kept quiet for awhile until the ligaments contract, it will probably remain in place; but, if the patient gets up immediately it will, in most instances, drop forward again with a renewal of the former symptoms. On account of this I am often asked the question—HOW OFTEN WOULD YOU GIVE A LOCAL TREATMENT? This depends upon the amount of pain and nervousness. If the displacement is causing severe pain, replace it; if it falls forward in a few hours, replace it again, but this time put the patient to bed, or at least advise her to keep quiet until the supports are strengthened. Ordinarily I give AS FEW LOCAL TREATMENTS as I can possibly get along with, perhaps one every week or ten days, this depending on the individual case.

In addition to replacing the uterus the blood may be emptied out of it by work along the veins leading from it. This is similar to the treatment given under prolapsus. In addition, correct the bony displacements found; they are the predisposing causes. They weaken the supports, impair the nutrition and interfere with the circulation; then the exciting cause, such as a fall or heavy lift, the more readily results in a displacement.

The **prognosis**, in a case of anteversion, depends upon the causes found and the condition and general health of the patient. If the patient is debilitated and very weak, it will take some time to strengthen the part so that the uterus will be held in position because the displacement is the result of a weakening of the supports and is incomplete and gradual. If the patient is strong and there is no loss of tonicity of the tissues, the **PROGNOSIS** is good, **SINCE A CURE IS GENERALLY EFFECTED BY A REPLACEMENT OF THE ORGAN. VERSIONS ARE MORE READILY REPLACED, AND MORE QUICKLY CURED, THAN FLEXIONS.**

ANTEFLEXION OF THE UTERUS. The canal of the nor-

mal uterus is straight or slightly curved with the concavity forward and downward. When it forms a more decided curve or

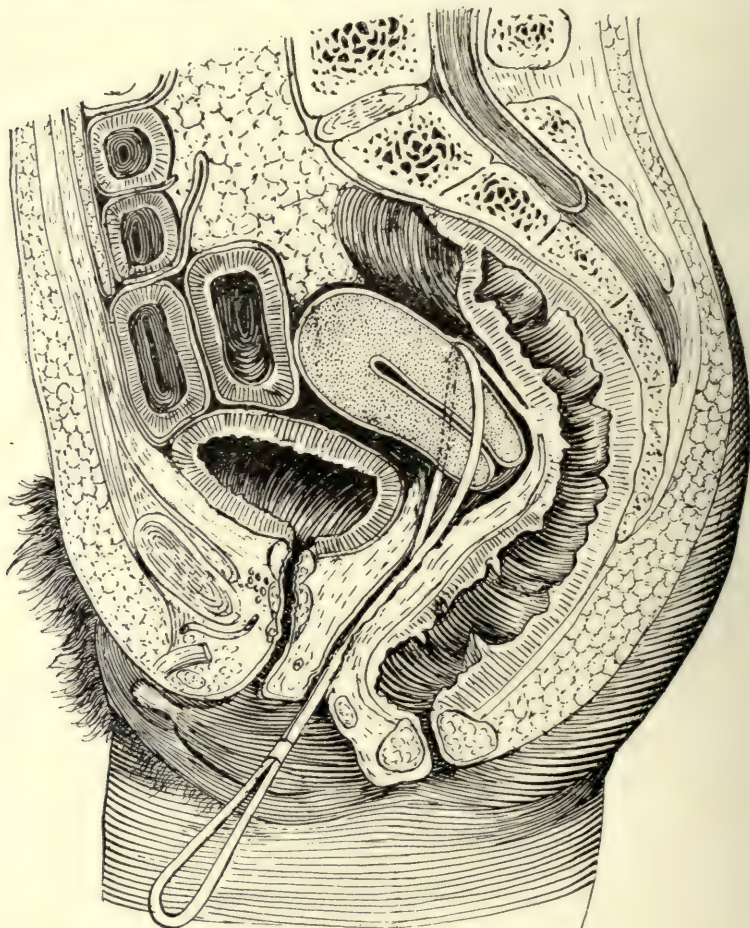


FIG. 70.—The wire uterine repositor in position in normal case.

angle, accompanied by dysmenorrhea and vesical irritation; or if there is an interference with the drainage of the uterine cavity or

with impregnation, it is called a **PATHOLOGICAL ANTEFLEXION**. Dudley says, "Anteflexion is pathological if the mobility at the angle of flexure is increased or diminished or absent." The movements of the uterus are commensurate with the varying

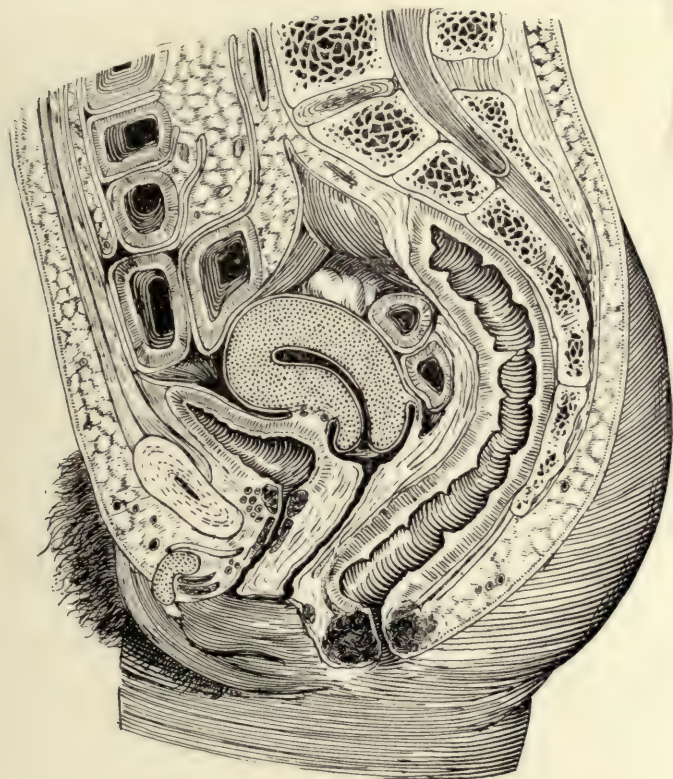


FIG. 71.—Cervical anteflexion of the uterus.

quantity of urine in the bladder. If **FLEXURE DOES NOT DISAPPEAR** when the bladder fills, but remains constant under all conditions, the **RIGIDITY** makes the flexure pathological. This condition is more frequently found in the nulliparous than in the

parous, FIRST, because the weight of the intestines and the abdominal pressure exerting a force on the posterior wall, tend to exaggerate the normal condition of slight ante flexion; SECOND, in

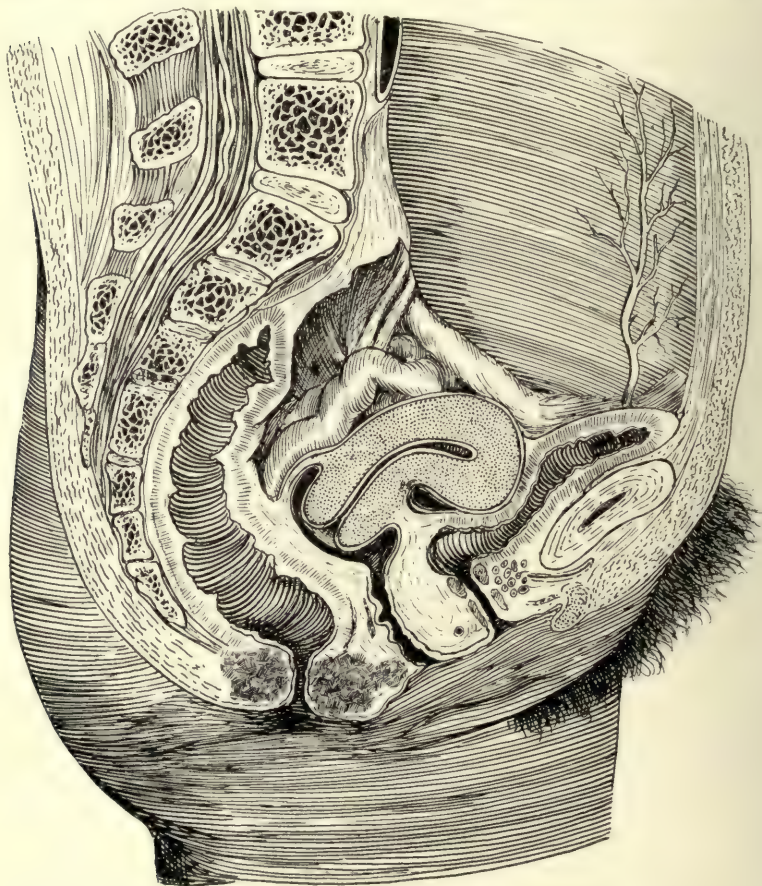


FIG. 72.—Corporeal ante flexion of the uterus.

pregnancy the uterus is carried backward and upward, so stretching the round ligaments that it prevents them pulling the uterus

back into the position which had existed before pregnancy; **THIRD**, on account of the condition of the uterus during involution and the vascular condition of the different ligaments, the uterus re-

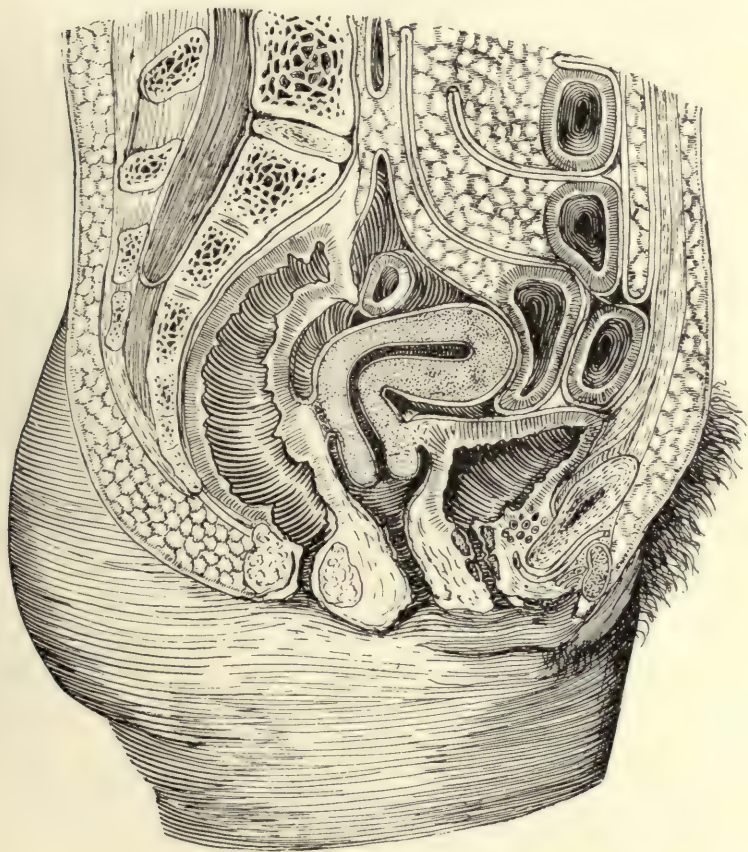


FIG. 73.—Cervico-corporeal anteversion.

mains in a higher position in the pelvis than it did formerly.

The usual **SEAT OF FLEXION** is at the point of junction of the cervix and the body, or it may be at the upper portion of the cer-

vix. The different classifications are based on the point of flexion; such as a **CORPOREAL**, in which the bend is in the body, throwing the fundus forward and downward, the cervix remaining in

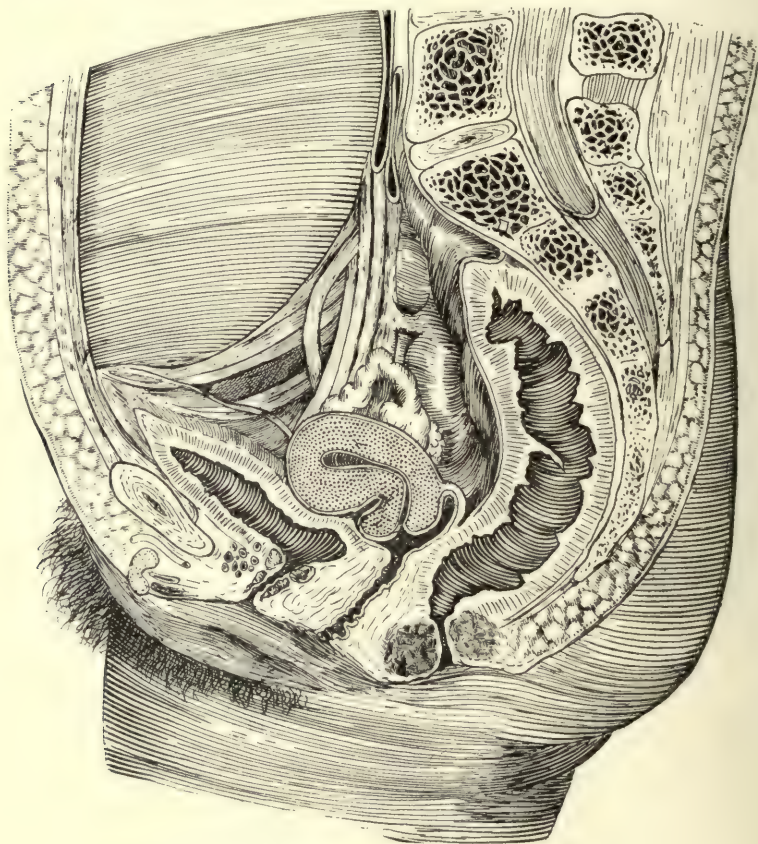


FIG. 74.—Very marked anteversion. (Irreducible).

normal position; cervical, in which the cervix is bent forward; and corporo-cervical, in which both are thrown forward, that is there is a bend in both body and cervix.

The cervical form may be mistaken, on vaginal examination, for retroversion, since the cervix is in line with the vaginal axis; the DIAGNOSIS must be made by the bimanual or rectal examination. Sometimes there is a congenital form of ante flexion in which the cervix is small, elongated and the os so very much reduced in size, that it is called the PIN HOLE OS. In a majority of all cases both the external and internal ora are small.

These displacements vary in degree from a slight bending of the uterine canal to that of a COMPLETE SEMICIRCLE, the fundus and cervix almost touching each other. The writer recalls having several cases in which the uterus was bent into the shape of an inverted "U," the fundus pushing back the anterior vaginal wall.

The ANTERIOR WALL at the POINT OF FLEXION undergoes a change in which there is a weakening of its muscle fibers. The posterior wall becomes thin on account of the stretching to which it is subjected. When this condition exists for any great length of time, these structural changes tend to become permanent and the displacement is regarded as incurable and is called an **irreducible flexion**. There is much loss of symmetry, and generally hardening of the concave side. This condition of irreducible flexion, is found to be most frequent in the CONGENITAL TYPE, due to some accident or cause which resulted in an error in development. When the fundus is very heavy or large, the displacement may become immovable; there usually being adhesions which hold it in that position. In most cases, especially if there is no pelvic inflammation, the uterus is movable and the bend in the uterus can be straightened by pressure against the fundus or by means of a sound. The degrees of flexion vary, and the symptoms vary, but with the amount of pelvic inflammation and degree of development rather than the amount of flexion.

CAUSES. The **FUNDUS** IS SUPPORTED by the **FALLOPIAN TUBES**, **ROUND LIGAMENTS**, **BROAD LIGAMENTS**, and the **body** of the uterus. The last mentioned support is the most important. On examination of a cadaver the broad ligaments are found to be flaccid, and allow quite a flexion of the uterus to take place before they are made tense. If they were tense cords they would support the uterus, but such not being the case, they only act as stays placed on each side, preventing too much lateral motion.

In the case of an anteflexion of the acquired type, in which the fundus has dropped forward and downward, there must be some trouble with its supports, that is, with the **LOWER PART OF THE BODY** of the uterus. This trouble is a softening of the uterine walls from chronic metritis. This weakening is the result of some disturbance of the nutrition of the anterior wall of the uterus. In an inflamed condition of the uterine walls, they are at first firm but afterwards become soft and weak, and the weight to be supported by them is greater on account of the passive congestion. Every strain of the body and every weight lifted forces the uterus farther forward, when once it gets a start in that direction. The walls having lost their elasticity on account of lack of nutrition, are bent more and more until a decided flexion exists. The farther forward it is forced, the more congested the uterus will be on account of the relation of the blood vessels to the broad ligaments. But to get at the primary cause of the congestion we must examine the venous return and the condition of the vaso-motor nerves which are distributed to the pelvic organs.

A **BONY** OR **MUSCULAR** lesion affecting the vaso-motor nerves, the usual effect being that of inhibition, serves to dilate the vessels innervated by them, thus producing engorgement of the organ. There may be a prolapsed condition of the bowels from various causes, this obstructing the venous blood on its way to the

heart. Any lesion or obstruction that produces venous congestion or chronic inflammation of the uterus, especially in the nulliparous woman, will usually produce a flexion of the uterus on account of the weakening and softening of the uterine walls.

A change in the tissues composing the uterus takes place; this change is one of atrophy or weakening of them. This, as a result, lessens resistance and the uterus yields to the extraneous pressure. When the uterus is in a normal position and becomes **congested** from the causes mentioned above, and as it bends forward of its own weight, the intra-abdominal and pelvic pressure, acting on the posterior wall, will gradually exaggerate the condition.

The CHARACTER OF THE DRESS has a great deal to do with the degree of flexion, or in many, with the causation of it. If too tight, it tends to congest the uterus, thus making the displacement worse. A lesion at the sacro-iliac synchondrosis predisposes to a flexion since it affects the nutrition of the uterus. This effect is partly the result of an interference with the innervation of the sacro-uterine ligaments and partly the result of direct pressure on or disturbance of, the anterior sacral nerves. Other lesions, such as a subluxated innominate or displaced lumbar vertebra, are frequently found. These weaken the uterine walls, sometimes shutting off the nutrition of a part, and if this be the anterior wall, ante flexion will result.

EVERY MUSCLE FIBER HAS A CENTER IN THE SPINAL CORD WHICH CONTROLS ITS TONE. This center is in the ANTERIOR HORNS of the GREY MATTER. The activity of this center determines the nutrition and tone of the muscle fibers. In the case of the uterine muscle fibers, the center is in the lumbar enlargement of the spinal cord and when these cells which comprise the center are mal-nourished the effect is manifest in an atrophied, soft,

uterus. It makes little difference how good the circulation through the uterus is, the blood does not tone it up unless this CENTER IS IN GOOD WORKING ORDER. If a man's stomach is diseased, it

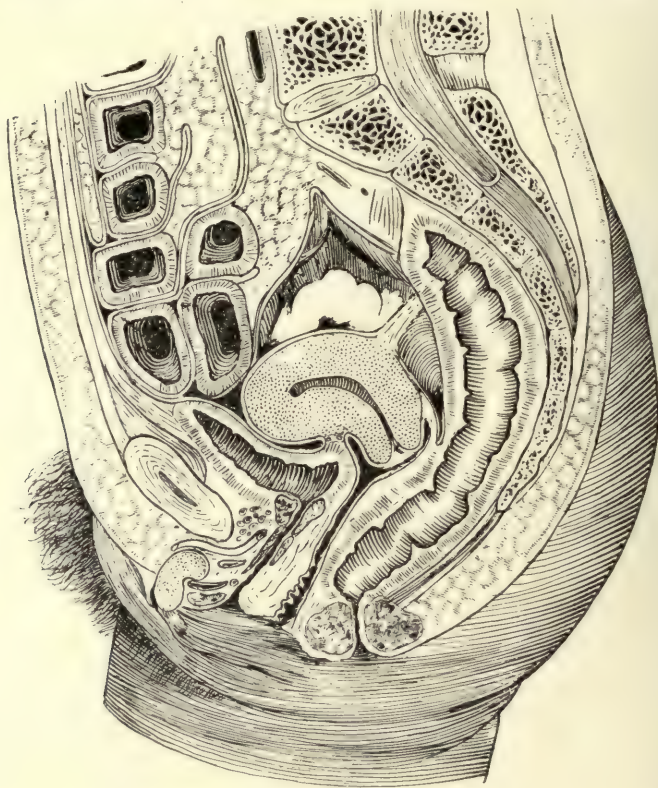


FIG. 75—Anteflexion of uterus from adhesion behind.

makes LITTLE DIFFERENCE HOW MUCH FOOD IS INGESTED, for UNLESS ASSIMILATION TAKES PLACE HE WILL GRADUALLY STARVE. **Lesions** of the VERTEBRÆ affect the blood supply to these cells from which the nerves controlling the uterine muscle fibers get their impulses.

INFLAMMATORY changes BEHIND the UTERUS, by producing shortening of the sacro-uterine ligaments, often result in ante-flexion. If you will remember the attachment of the ligaments, you can the better understand how a shortening of the same will draw the lower part of the body upward. This shortening of the ligaments is most commonly the result of inflammation; the inflammation was preceded by a congestion, this congestion resulting from several things, such as localized poison as is found in gonorrhea, causing a partial paralysis of the vaso-motor nerves, or from the various bony lesions which affect the pelvis. These thickened bands or ligaments can be felt on local examination and care must be exercised in treating them, for a forcible breaking up of them will often result in an acute peritonitis.

A FIBROID TUMOR on the fundus or posterior wall will either bend the uterus forward by the increased weight or force it forward by the pressure exerted behind the growing tumor. This cause is almost entirely confined to nullipara. In the beginning of pregnancy, that is, up to the third month, the uterus ante-flexes, and forms from its anterior position and shape, one of the best of the early signs of pregnancy, the uterus being found to resemble in shape an inverted jug.

UNEQUAL INVOLUTION of the uterus during the puerperium is a cause of the acquired form of ante-flexion. The placental site, being on the posterior wall, prevents it from involuting so rapidly as the anterior wall.

UNEQUAL DEVELOPMENT is the cause of the CONGENITAL form. Since the uterus lies dormant up to the age of puberty, and at that time undergoes a wonderful developmental change, any interference with its nutrition, such as directing the nerve force by overwork through another channel, will result in a non-, or imperfectly developed organ. This causes many cases of the

so-called infantile uterus, which can be traced back to some accident at puberty. In such cases is found the worst type of ante-flexion. The menstrual pains are more severe in this form of ante-flexion than in any other form. The fornices are shallow, the os small, the vagina long and the uterus high. The cervix in most cases is somewhat elongated and situated in the long axis of the vagina; such conditions are most frequent and best marked in the obese. If pregnancy ever does take place the labor is very hard.

In other cases there is a CONGENITAL PREDISPOSITION TO FLEXION; that is, the girl is born with a weakened condition of the uterus at the point of junction of the body and cervix; then the posture, mode of dress and occupation, all of which produce pressure on the upper and back part of the uterus, force it down in ante-flexion.

In still other cases the sacro-uterine ligaments remain short and hold the uterus high in the pelvis as it is during infancy.

THE SYMPTOMS. The **symptoms** of ante-flexion of the uterus depend upon its IMPINGEMENT on itself and neighboring structures; narrowing or STENOSIS of the uterine canal; amount of INFLAMMATION in and around the uterine walls, and VARIOUS REFLEX DISTURBANCES affecting organs that are weakened by lesions. The organs and structures impinged on are the bladder and the anterior vaginal walls, the pressure, exerted like that in ante-version, producing frequent micturition and sometimes a congestion or inflammation of the mucous lining of the bladder, resulting if severe enough in some cases in cystitis. The frequent micturition is due not so much to the mechanical pressure exerted on the bladder, as to the inflammation of the uterus. The greater the degree of inflammation the more frequent the micturition. Another point in favor of this theory is that frequent micturition

occurs in many cases of retro-displacements when metritis exists partly as a result of the inflammation extending to the bladder and partly from traction on the bladder.

Pain occurs when the bladder is distended and sometimes the sensation of distress follows immediately after evacuation of the bladder. This peculiar griping pain is due to an effort on the part of the bladder to expel an imaginary foreign body. The irritation is the result of the inflamed uterus pressing on the bladder. Impulses arising from this pressure reach the micturition center, thus resulting in an attempted evacuation; the center mistaking the impulses for the normal impulses which are formed when the bladder is distended. Sometimes the contraction of the uterosacral ligaments draws the lower part of the body upward and backward, thus putting on a tension the vesico-vaginal walls, which condition can be ascertained by local vaginal examination.

Impingement on the walls of the uterus at the point of flexion affects circulation, nutrition and secretion, and finally results in atrophy of the wall. This wall becomes weaker and thinner, as regards normal uterine tissue, but there is a gradual increase in deposit of fibrous material the longer the pressure exists, and finally reaches such a degenerative stage that the displacement becomes very hard to correct.

The flexion also **NARROWS** or causes a complete stenosis of the uterine and cervical canals. The secretions will then be retained, which undergoing changes cause irritation of the endometrium. Abortion follows such conditions if the constriction is not complete enough to prevent impregnation.

Endometritis frequently complicates with its attending pains and reflexes. The collapse or obstruction of the uterine canal will prevent or interfere with the expulsion of the menstrual discharge, giving rise to dysmenorrhea or painful menstruation. In

this kind of dysmenorrhea the pain ceases as soon as the flow starts, but it is rare to get a typical case, for endometritis is present in most of the cases. It also TAKES MORE force, that is, HARDER UTERINE contractions to expel the menstrual fluid up and around a curve, thus the pain. In anteflexion, the fundus is low and the blood accumulates in the cavity at this point, which is lower than the curved portion. If endometritis complicates the flexion the pain will be severe, since the contraction of the muscle involving an inflamed area will certainly be productive of pain of the worst type. I am inclined to the belief that in most cases of dysmenorrhea, THE INFLAMMATION IS THE REAL CAUSE OF THE PAINS. In other cases the pain is due to strong uterine contractions. If the blood is prevented from escaping it will coagulate, and in order to force the coagula through a narrow canal the uterus has to GO INTO LABOR, and THE UTERINE CONTRACTIONS SIMULATE LABOR PAINS. Inflammation of the endometrium and walls permits coagulation of the retained menstrual flow.

If there is little inflammation the pain will be in proportion to the amount of it and from this we will conclude that the dysmenorrhea accompanying anteflexion, is mostly due to the inflammation and only is partly due to a narrowing of the canal. The writer has seen cases in which upon examination with the speculum during menstruation, CLOTS WERE FORCED OUT OF AN APPARENTLY VERY SMALL OS UNACCOMPANIED BY PAIN, there being no inflammation of the uterus. Also other patients likewise examined, suffered great pain on the expulsion of coagula from a patulous os. If the patient is married and has anteflexion, usually there is sterility. The spermatozoa are either unable to gain entrance into the uterine cavity on account of its obliteration from flexion, or else the diseased condition prevents them, after impregnation has occurred, from becoming attached to the

uterine wall. Since the leucorrheal discharge from a diseased uterus usually is acid, it counteracts the alkaline spermatozoa. If patients suffering from ante flexion become pregnant there is almost sure to be hyperemesis. This can be relieved in part by straightening the curve, which is best done by a local digital treatment. In marked types of ante flexion, the effort necessary to raise the uterus out of the pelvis often gives rise to uterine contractions SEVERE ENOUGH to expel the contents of the uterus, this constituting a common cause of abortion. On the other hand pregnancy is one of the the surest cures for ante flexion if the patient carries to term. Ante flexion, if chronic, is accompanied by the usual reflexes, such as backache, headache, or in some, gastric disturbances and functional heart trouble. These reflexes rather depend upon the amount of inflammation present, than upon the kind or degree of the flexion.

DIAGNOSIS. The diagnosis of ante flexion of the uterus is made by a vaginal and bimanual examination. As the finger passes into the vagina and touches the cervix nothing abnormal, if it is a typical case, will be noticed; the direction of the cervix not usually being changed in an ante flexion. In some cases the anterior lip will be elongated or rather, the posterior lip of the cervix will be shortened, on account of the traction exerted on the posterior uterine wall, this giving the anterior lip the appearance of being elongated, or of a small growth upon it. As the finger sweeps along the anterior wall of the uterus at a point just above the os internum, a protuberance will be met with, which is the body or fundus of the uterus pressing against the bladder and the anterior vaginal wall. By outlining the anterior wall of the uterus with the examining finger in the anterior fornix of the vagina, a MARKED CONCAVITY, CURVE OR ANGLE can be outlined. When this curve or angle of flexion is discovered and there is no

tumor, the DIAGNOSIS IS POSITIVE. Keeping the finger upon the mass, the other hand should be placed upon the abdomen just above the symphysis pubis and made to compress the abdominal wall so that the two hands will be approximated. By this means the shape, size and sensitiveness of the body can be ascertained.

To differentiate the body felt in the anterior fornix from a fibroid tumor, consider the form of menstrual disturbance and by the bimanual method outline the fundus, which would be posterior if a tumor were present. Sometimes the use of a sound is advocated. If the sound, on introduction, meets with resistance it is diagnosed as a flexion if the other symptoms are present; but if the sound meets with no resistance and the uterine cavity is elongated, it is probably a fibroid tumor. There is always danger in the use of a sound for diagnostic purposes, since one is very likely to injure the uterine wall, not knowing the direction of the canal.

The POSITION of the CERVIX will DIAGNOSE ANTEVERSION from ANTEFLEXION since in anteversion it is changed in direction, while in anteflexion it usually is not. In case it is changed, it is thrown forward rather than backward. If in doubt after making the bimanual examination, make a rectal examination, since by this it can be ascertained that the uterus is not retro-deviated, for nothing but the cervix can be felt through the anterior rectal wall. On vaginal examination, especially in congenital cases, cervical anteflexion may be mistaken for retroversion; but the diagnosis is cleared up by the bimanual method and by feeling the angle of flexion. Quite often there is an anteflexion with a retroversion or retroposition. This is ascertained by finding the cervix in line with the vaginal axis, the body in retroposition and by feeling the curve or angle in the anterior uterine wall. The anteflexion, if primary, becomes an irreducible one and then while in this state, the uterus is forced backward by the usual causes of

retroversion. The uterus remains back and retains its curve, hence the apparently paradoxical condition. The symptoms and treatment of this condition are the same as for simple retroversion, except in cases of obstructive dysmenorrhea. In such cases the uterine canal ought to be straightened or dilated.

PROGNOSIS. The **prognosis** of an ante flexion, as to straightening the canal, is **UNFAVORABLE**, but relief can be promised in most cases. The ability to straighten the curve depends on the



FIG. 76.—Retroversion with ante flexion.
(Byford)

amount of fibrous tissue deposited at the angle of flexion. Since the inflammation and weakening of the wall at the point of flexion is the real cause of the disturbances, the flexure in itself need create no anxiety, for it is not of great importance except that it may cause sterility on account of obstruction of the uterine canal.

TREATMENT. The points indicated for the treatment of ante flexion are first, reduction of the inflammation; second, strengthening of the uterine walls; and third, opening up of the uterine canal by reducing the flexion. It must be borne in mind

that flexions are unlike versions in respect to the rapidity in which they are formed. VERSIONS may OCCUR SUDDENLY from a fall or violent strain, while FLEXIONS OCCUR GRADUALLY from a weakening of the uterine walls or pressure long continued. Therefore versions are susceptible of immediate relief, while as a rule, flexions are not, since they are the consequences of influences long kept up.

The reduction of the metritis accompanying ante flexion is accomplished by the correction of the causes producing it. THE BONY LESIONS found, must be reduced or else the local treatments will do little if any good. These lesions affect nutrition of the walls, and in order to cure the flexion the walls must be strengthened. These lesions also affect the uterine circulation, thus to reduce the inflammatory condition the vascular supply must be made normal, which is done in part, by correcting the bony lesions found especially in the lumbar region.

The uterine walls are straightened by repeated replacement of the organ. The pressure of a flexion increases the atrophy and weakness of the wall, and must be straightened out before a complete cure can be attained.

Replacement is effected by placing the patient in the dorsal position, introducing one or two fingers into the vagina, and pressing upward on the anterior fornix, through which the body and fundus can be felt. After it has been forced up as high as possible the fundus can then be grasped by the external hand. When this is done, and the uterus firmly caught, it can be bent into position very readily. The objection to this is the difficulty in obese people, of being able to feel the uterus through the abdominal wall. In such cases the physician will have to rely upon the pressure exerted by the vaginal finger, and in most cases it can be replaced in this way. It is best to have the hips

elevated while replacing the organ, and after the displacement is corrected the patient should rest for some time in the dorsal position.

The OBSTACLES to replacement are adhesions, inflammation of and around the uterus and structural changes in the uterus, usually most common at the point of flexion.

Sometimes ANTEFLEXION can be CORRECTED by external ABDOMINAL MANIPULATION. I have taken cases of dysmenorrhea, dependent upon an anteflexion, and by elevating the hips and working deeply over the abdomen with an upward motion, I have been able to straighten the uterine canal, thereby starting the flow and relieving the pain. I make it a practice of giving this treatment first, in cases of anteflexion in nullipara, since it removes the pressure exerted by the intestines and certainly TENDS to correct the displacement, and in many it is entirely corrected in this way.

If it is impossible to replace the organ by these means, resort is made to the use of a sound. This method is mentioned more for the sake of completeness than as an important therapeutical measure. The cases in which the use of a sound is indicated are very rare. The patient should be placed in the Sims position. After warming, lubricating and disinfecting the sound, it can be introduced in the manner previously described. It is a painful operation and should be done as slowly and gently as possible. Be careful to first diagnose the position of the uterus and then use no force in the introduction of the sound. Schultze says, "The uterus, when normally flexible and movable, slips over the instrument if the latter is carefully introduced, even though the direction given to it may differ very materially from that in which the uterus itself was previously lying." But if the uterus is in any way fixed, the sound can not be passed as Schultze describes un-

less its point be carried forward in the direction of the cavity; and even after the shape and position of the uterus have been exactly ascertained, it is often very difficult to bend the sound into such a shape that it can be introduced into the cavity. On account of the inflamed condition of the endometrium, any force USED will INJURE the endometrium and bring on pain and in many cases hemorrhage. Unless the sound is clean it may carry disease to this weakened endometrium and set up a more severe endometritis. After the sound is in position the uterus can be moved at will unless adhesions bind it down. Be careful not to use much force since you have a greater lever power than you imagine. Ordinarily by simply bringing the handle forward, that is, towards the patient's limbs, the uterus can be forced into place. After this is done it should be carefully withdrawn and the patient left either in the latero-prone or dorsal position for some time. It produces quite a shock to the nervous system and should not be repeated within several days, even if found that the uterus has become displaced again. Also the sound should not be used after the tenth day following menstruation if it can be otherwise avoided, since it is apt to bring on the menses. Frequently a leucorrheal discharge will follow the use of a sound, but this only lasts for a short time and is due to the disturbance of the tender endometrium or a straightening of the uterine canal, thus allowing the retained secretions to escape.

The use of a stem pessary has been resorted to by some, but I think their use is productive of more harm than good. This pessary when used is a source of irritation to the uterus, increases danger of infection, and instead of doing good, very frequently leads to a more serious metritis.

When ante flexion is irreducible and dysmenorrhea and sterility exist on account of the obstruction to the uterine canal,

surgeons have made an artificial opening by various operations, such as an excision of the posterior lip, lateral incision, amputation of the entire cervix, etc. The writer has seen many cases in which a longitudinal incision has been made the entire extent of the vaginal portion of the cervix, and invariably the patient was not even relieved of the dysmenorrhea. Amputation of the cervix has given a higher per cent. of relief than the above mentioned operation, although some cases have been made a hundred times worse by such an operation. Operations should never be resorted to until it is evident, after careful and thorough trial, that the case can not otherwise be cured or relieved, and even then they are experiments in most cases.

RETROFLEXION OF THE UTERUS. Retroflexion of the uterus is a displacement in which it is bent backward on itself in contra-distinction to antelexion, in which it is bent forward on itself. Retroflexion is preceded in most cases by retroversion, that is, THE UTERUS IS FIRST TURNED BACKWARD, then the intra-abdominal and pelvic pressure is exerted against the anterior wall, thus bending it further backward. (See Fig. 77.)

This displacement with the accompanying complex train of symptoms is ONE OF THE MOST IMPORTANT that comes to the gynecologist. Since retroversion invariably precedes it, there is to contend with, the double displacement with all the symptoms of each. It occurs less frequently than antelexion; first on account of the natural anterior obliquity favoring the antelexion; and second, the retroflexion is more thoroughly guarded against by the ligamentous supports; the round ligaments, running from the horns of the uterus to the vulva, tending very decidedly to prevent a backward bending. They not only do this, but if softening of the walls from inflammation of the uterus occurs, they would naturally draw it forward; yet, if the softening is the result of chronic

metritis, the uterus descends and the round ligaments, being composed of structure similar to the uterus, soften and stretch.

CAUSES. As in anteflexion, we find SOFTENING OF THE wall from metritis a very common cause. The indications of the chronic metritis are general pelvic tenderness and adhesions which limit the mobility of the uterus. These adhesions are often threadlike and friable while in the worst types they are extensive, thick and tough. The inflammation extends to the round ligaments whose function it is to hold the uterus in normal anteversion. This weakens them, and by their relaxation, the uterus IS BENT backward by a very slight force exerted from the front or above. If the sacro-uterine ligaments are relaxed and the cervix is allowed to go forward, which condition is necessary in backward displacements, retroversion will complicate the retroflexion, and this is the condition in a large per cent. of all cases of retroflexion. Schultze says that the cause of ninety per cent. of cases is "RELAXATION of the SACRO-UTERINE LIGAMENTS due to constipation; general weakness with relaxation of all the pelvic cellular tissues; but particularly to post partum, pathological conditions, such as a lacerated cervix and vaginal fornices, getting up too soon, etc." This metritis, as has been mentioned, is the result of a disturbed blood supply. Bony lesions, which affect the centers that control the blood supply of the uterus, cause a venous stagnation, on account of which the blood undergoes changes, poisonous materials collect which result in an attempt on the part of the organism to rid itself of this poison, which attempt we call inflammation. No constant particular lesion is found; but there usually exists a subluxation at the sacrum, innominata, or of the lumbar vertbrae. The vaso-motor centers for the internal genitalia, according to Quain, are in the lumbar spinal cord. The impulses travel over the lumbar cerebro-spinal nerves or white

rami to the ganglia, thence to the uterus by way of the aortic and hypogastric plexuses to the pelvic, thence to the uterine plexus. A curvature in the lumbar region must of necessity, affect the

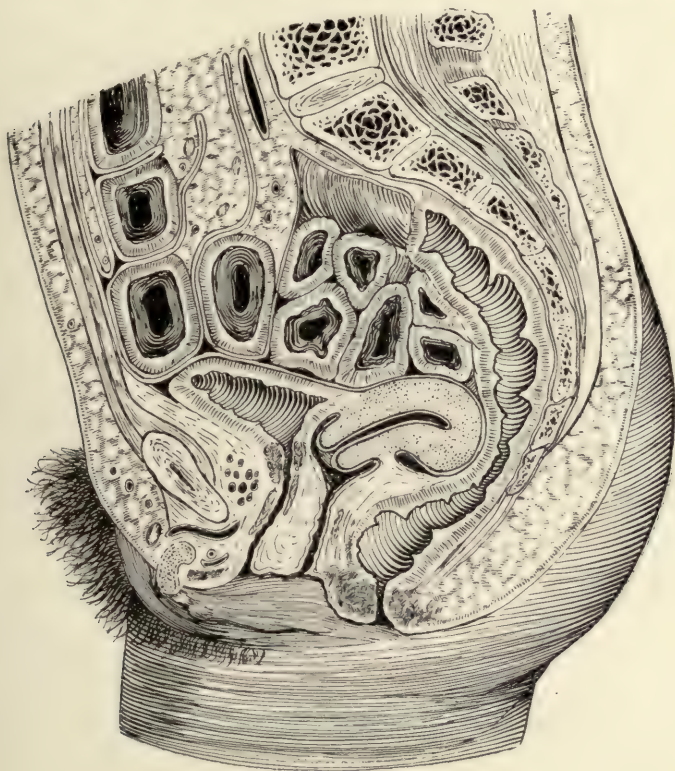


FIG. 77.—Retroflexion preceded by retroversion. The common form.

circulation of blood through the uterus, unless it develops so slowly that compensation can take place.

Again, these lesions affect the MOTOR NERVE SUPPLY to the muscle fibers composing the uterus. A muscle fiber to be normal, must have a certain amount of nerve force traveling to it,

giving it tone. When this nerve force is increased in amount, the uterus contracts as in parturition and menstruation. When this nerve force is lessened, the muscle fibers of the uterus relax,

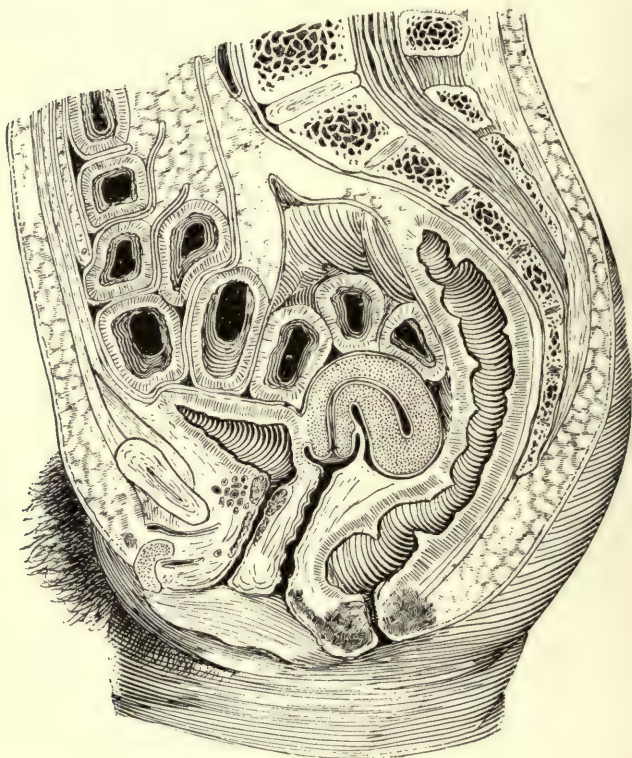


FIG. 78.—Extreme retroflexion with softening of wall at point of flexure. (Irreducible).

weaken and atrophy. This is illustrated best in the cases of atonic paralysis.

This **relaxation of the tissues** of the uterus is the important cause of flexion. The center for the tone of the muscles of the

uterus is in the anterior horns of the grey matter of the lumbar spinal cord. The above mentioned bony lesions affect these centers by interfering with their nutrition and by affecting the nerves at their exit from the spinal canal.

After the uterine walls have been weakened by these lesions which shut off the nutrition, then the exciting cause, such as exertion, a fall backward when the bladder is distended, more readily produces a displacement, first, a retroversion and soon a retroflexion if the walls are weak.

Retroflexion is RARELY CONGENITAL, in which respect it contrasts with anteflexion. It is frequent in multipara (rare in nullipara) because the cause is especially related to the puerperal state. During the puerperium the walls are large, vascular and very soft. The ligaments and all the supports are weakened on account of not having, in such a short time, recovered their tone. If the bladder is much distended it will force the uterus backward, and if this is frequently repeated, and the patient lies on her back, the uterus will be forced back and perhaps remain permanently in that position.

On examination of the patient shortly after her confinement, we sometimes find that the uterus is lying back in the pelvis. The intra-abdominal pressure which, when the uterus is in the normal position is exerted on the posterior wall, now comes to act on the anterior wall, forcing the fundus backward and downward. Each straining effort forces it a little further until by degrees it is retroflexed.

The practice of putting on a tight abdominal binder after confinement tends to force the uterus downward into a cramped position, and later on it is forced backward, and this is especially true if the patient lies a great deal in the dorsal position during the puerperium. The uterus after labor remains low in the pelvis

for about twenty-four hours. AFTER THAT TIME it SHOULD RISE AS HIGH AS THE UMBILICUS. If the uterus is normal in tone it will become straightened out unless held down by a "binder," If the bandage is applied, or if the uterus is very weak as is often the case in tedious labors, it remains in a collapsed, crumpled condition, partly out but mostly in the true pelvic cavity. This condition interferes with drainage, HENCE THE GREAT LIABILITY TO PUERPERAL fever. The writer always advises the giving of a "LIFTING UP" ABDOMINAL TREATMENT, if the uterus fails to ascend, for the purpose of straightening the uterine canal. This is best accomplished by placing the patient on the side and making deep pressure just above the symphysis pubis and then carrying the hand backward and upward, thus lifting the intestines and partly straightening the uterus; it usually being in a position of ante flexion soon after labor is completed. The author's rule in obstetric work, is to establish FREE DRAINAGE OF THE LOCHIA, thus **preventing** childbed FEVER. If drainage is good it is well nigh impossible for a fever to occur if any care whatever is taken.

A FIBROID tumor on the anterior wall may, by its growth force the uterus backward, thus producing a retroflexion. Unequal involution of the uterus, when the placental site is on the anterior wall, causes the posterior wall to contract faster than the anterior, thus drawing the upper part backward.

ADHESIONS may draw the fundus backward or laterally, while the cervix is fixed by other adhesions. This results in a bad form of retroflexion. The adhesions usually follow metritis or a perimetritis, and the treatment should be directed to absorb rather than break them up.

After considering all these causes the most important is THE METRITIS, which softens and enlarges the uterine walls. To the osteopath this usually means that there is some derangement of

the bony framework which encloses the pelvic organs, shutting off some of the nutrition or nerve force that should be transmitted through the numerous foramina to the pelvic organs.

SYMPTOMS. The **symptoms of retroflexion** may be arranged in three groups; the **FIRST**, including those which are more or less continuous; the **SECOND**, those that are referred to the menstrual period; and **THIRD**, those connected with the function of reproduction.

Backache is one of the common symptoms attending any displacement, but especially retroflexion. It may be a dull constant ache or it may be an actual pain, which is aggravated by muscular action and at the menstrual period. The patient usually describing it in this way: "My back feels like it is broken or unjointed in the small of the back or at the waist line." This is **WORSE IN THE EVENING** if the patient has been on her feet during most of the day. There is a weakness or a distinct **PAIN** between the **SCAPULAE** which is increased by exercise or fatigue. Finally the patient tells you of a drawing sensation in the neck; the **HEAD** has a tendency to **RETRACT**; the **EYEBALLS** become **TENDER**, or in some cases there is a distinct **ACHE** and there is the usual **VERTICAL HEADACHE**.

Sciatica in its worse form is often produced by retroflexion of the uterus. This is partly the result of pressure on the sacral nerves and partly due to the inflammation of the uterus extending to the nerve. The writer has cured cases of synovitis of the knee by correcting a retroflexed uterus. Various other types of neuritis and neuralgia of the lower limbs result from retroflexion.

Metritis with its symptoms of heaviness and distress in the pelvis, is present. Tenderness is obtained by pressure over the uterus, that is, at a point just above the symphysis pubis. Any

condition producing MOVEMENT of the uterus, such as a digital examination, coition, or jarring of the body, causes pain in the uterus.

CHRONIC PERITONITIS with its adhesions and exudates, accompanies the metritis and fixes the uterus in its abnormal position. Endometritis is present with its disturbing secretions. DYSpareunia occurs if the inflammation is very marked. PAINFUL OR DIFFICULT DEFECATION results from either the inflamed condition of the uterus, or the pressure of the uterus against the rectum. This gives the patient the sensation of a loaded bowel, and the repeated attempts to empty it, are often accompanied by tenesmus. Passage of the bowel contents through, and contraction of the sphincter muscles around an inflamed and sensitive zone, are necessarily accompanied by considerable pain. In case that constipation complicates retroflexion, I think it due, in most cases, rather to the RELAXED CONDITION OF THE SPHINCTER MUSCLE and mucous lining of the rectum, than to any mechanical obstruction produced by the displaced uterus. The pressure of the uterus deadens the sensation in the bowel as does constant pressure on any sensory nerve.

There is a weak, flabby condition of the sphincter muscles in chronic cases and the MUCOUS MEMBRANE PROLAPSES. On making a rectal examination in these kind of cases, the finger will meet with a blind obstruction, the lumen of the bowel being very hard to discover. I have examined cases, in which the internal sphincters had prolapsed so that they approached the anal opening, thus occluding the bowel at that point.

LEUCORRHEA accompanies this form of displaced uterus, if there is an existing endometritis. The BLOOD SUPPLY of the mucous and other glands is impaired in quality, it being venous in character. If there were increased arterial supply, the physiol-

ogical secretions would be increased; but an increased amount of venous blood produces a pathological secretion or leucorrhea. If the case is chronic and the uterine and vaginal walls are softened, leucorrhea is a constant symptom, but if it is a recent case it is usually absent.

DYSMENORRHEA, though not so common as in antelexion, is an important symptom of retroflexion, and is due to the metritis or inflammation of the uterus, or to the obstruction at the point of flexion. In some cases it is due to both. As mentioned under antelexion, there would be very little pain if no inflammation accompanied the narrowed condition of the uterine canal. When there is narrowing, obstruction and an inflamed condition, great pain is experienced when the uterus contracts in its effort to overcome the obstruction to the exit of the menstrual flow. This dysmenorrhea is not so marked as that found in antelexion; probably on account of the patulous condition of the os uteri from pregnancy, since retroflexion is most commonly found in multipara.

If there is marked congestion, MENORRHAGIA will be a symptom of this displacement. On account of the obstruction of the return flow of blood, the uterus becomes engorged and the menstrual flow is a safety valve whereby the uterus can rid itself of this extra amount of blood.

STERILITY is sometimes found, and is due to an altered condition of the os and cervix; increased mucous secretion; obstruction of the Fallopian tubes, or prolapsus of the ovaries. If the fundus is bent backward very far, the tubes and ovaries must be altered in position, sometimes to such an extent that there is suspension or destruction of their function. Frequently the patient will tell you that she had a child several years ago, and after that she suffered with leucorrhea, pain in the back, irregu-

lar menstruation, and has never conceived again. In such cases a retroflexion is commonly found. After conception has taken place in such cases there is a further risk of abortion. Conception may take place in a retroverted uterus WHICH MAY RIGHT ITSELF as soon as the fetus begins to grow and push the fundus out of the pelvis, which is about the third month. If the uterus does not right itself, or if the mucous membrane is in a pathological condition which prevents the ovum from being firmly attached, abortion will occur.

The SIZE of the uterus, that is, the length of the body and size of the cavity, are increased in retroflexion, the cavity measuring about three inches in length. The posterior wall at the point of flexion is thin and atrophied. The abdominal pressure acting on the anterior wall, forces the fundus lower into the pouch of Douglas; sometimes it rests directly on its floor. The bladder is not always disturbed, but lacks the pressure of the uterus on it, this sometimes causing trouble.

The ureters are often compressed, this giving rise to renal trouble or a pain resembling the passage of a renal calculus.

The nerves supplying the lower limbs, may be affected by the pressure of the retroflexed uterus and give rise to PAINS IN THE LOWER EXTREMITIES. There may be only a sense of weakness with no particular pain, the patient complaining of feeling tired in the limbs after a slight exertion or else they remain cold a great deal of the time.

ABDOMINAL pain, neuralgias in different parts of the body, nervous dyspepsia and neurasthenia are usually present. Hysteria in all its peculiar and varied forms, sometimes attends this condition.

TENDERNESS is found along the sacro-iliac SYNCHONDROSES, sometimes there is a knotty feeling in the muscles and lymphatics

at this point. The fifth lumbar is frequently found to be tender on palpation. The sacrum, in some cases, will be found to be prominent, indicating a TURNING at the sacro-iliac junction. Since the inferior hypogastric plexuses are located on either side of the uterus, the backward displacement will certainly disturb them in some way; by stretching the nerve filaments, resulting either in inhibition or stimulation of them. The BROAD LIGAMENTS are TURNED ALMOST COMPLETELY OVER, or at least very badly TWISTED. This of a certainty causes circulatory changes in the pelvic genitalia resulting in ovarian, tubal and uterine disturbances, varying from congestion to suppuration, this depending upon the completeness of the obstruction.

DIAGNOSIS. On vaginal examination the cervix is found rather low in the vagina, its direction being a little changed. If a retroversion complicates the flexion, the cervix instead of pointing to the hollow of the sacrum, points forward. On examination of the posterior fornix, a firm body is felt in the pouch of Douglas; this is the fundus or body of the uterus. To ascertain whether this body is the uterus or a tumor the cervix is moved at the same time. If it is the uterus it moves when the cervix moves unless adhesions exist. The angle on the posterior wall can be felt, but a fibroid tumor may exist in the posterior wall, and in order to differentiate the two, the bimanual examination must be made in addition to the digital vaginal.

First try and see if the uterus is in normal position; this being done by pressure exerted in the anterior fornix with the internal finger and just above the symphysis with the external hand. If no body is found at this point, it is indicative that the uterus is backward. Then place the internal finger behind the cervix, well up in the posterior fornix; with pressure exerted upward, in conjunction with deep pressure over the abdomen with the ex-

ternal hand, the retroflexion can be felt if the abdominal wall is thin and relaxed, otherwise it cannot.

If in doubt, a RECTAL EXAMINATION should be made, the position of the uterus can then be palpated if there is no ascent. This examination is necessary if the abdominal walls are contracted or very thick. Having found that the uterus is flexed, its MOBILITY should be tested in order to ascertain as to whether or not it is held down by adhesions; whether the fundus is caught under the promontory of the sacrum; or, if it is too freely movable.

To ascertain the mobility, pressure is exerted upward on the body of the uterus; it should yield readily if not fixed by adhesions. If held down by adhesions or caught under the promontory of the sacrum, considerable force is necessary to move it. By examining the posterior surface of the uterus either through the posterior fornix or the rectum, the adhesive bands can be palpated. I have felt them as large as wheat straws, and very tense if an attempt were made to push the uterus forward. If such exist, they must be either ABSORBED or broken up before a replacement can be effected. Often the uterus seems GLUED, as it were, to the SACRUM OR BOWEL. In such cases, no adhesive bands can be felt but the uterus seems to be securely fastened and is not moved by ordinary pressure. Percussion over the sacrum, or a vigorous shaking of the patient while in the knee-chest position, is often sufficient to overcome such adhesions.

The sound is sometimes used to differentiate between a flexion and a tumor on the posterior wall, but its use should be deferred until all other methods have failed; and even then as an experiment its use is very seldom indicated, although many physicians do advise it.

Care must be taken not to mistake a FECAL IMPACTION for a retroflexion. The fecal matter felt through the posterior wall of

the vagina may also be mistaken for a tumor, especially if the patient has chronic constipation, in which condition the feces are very hard.

A deposit in the pouch of Douglas may at first be mistaken for the fundus, but locating the fundus at a different place, clears up the diagnosis. Sometimes the ovary prolapses into the pouch of Douglas, or an ovarian cyst may be found in this region. The cyst can be diagnosed by its elasticity and softness, and the subjective symptoms.

PROGNOSIS. The **prognosis** depends upon the amount of inflammation; length of standing of the case, and whether or not it is a reducible flexion. If it is one of recent occurrence, and there is not much loss of tonicity, the prognosis is good; but if of long standing and there is a metritis or atrophy, it is poor. If the flexion can not be entirely overcome, relief can usually be given a patient by removing the inflammation and tenderness.

TREATMENT. The **treatment** of retroflexion is best discussed under three heads; **FIRST, REPLACEMENT** of the organ; **SECOND, KEEPING IT IN PLACE AFTER IT HAS BEEN REPLACED**; **THIRD, RELIEF OF THE SYMPTOMS** where replacement is impossible. The first thing to notice is the amount of inflammation and whether or not the uterus can be replaced. The obstacles to replacement are fibroid tumors, adhesions and inflammatory conditions, which make the parts too sensitive to be moved. These conditions must be overcome, or at least partially reduced, before the uterus can be replaced.

The treatment for fibroid tumors will be given in another paragraph.

Adhesions are best treated by producing absorption of them, which is done by correcting the disturbances of the circulation. They are the result of an inflammatory exudate, and the inflamma-

tion is the result of a disturbed blood supply. GENTLE FORCE can be used to break them up, but care must be taken lest the inflammation be increased or a hemorrhage result, which would bring on peritonitis. If there is great tenderness in and around the uterus, it can be lessened by gentle treatment around the uterus; principally above it. This lifts up the intestines and helps the drainage of the blood out of the uterus. Direct manipulation, unless very light, over the point of inflammation, is not indicated and sometimes makes the condition worse.

Sudden retroflexion occasionally occurs. It is due to a weakened uterus and supports, plus some exciting cause; such as a twist, strain, sudden exertion, or in fact anything causing a sudden increase in the intra-abdominal pressure. It gives rise to very acute symptoms and frequently produces unconsciousness. I have been called to see cases in which the patient appeared to be violently insane. In some of these cases the patients were attempting to bite and scratch, or injure in any way possible, whoever came near; also pulling out their own hair by the handful. CORRECTING the uterine DISPLACEMENT seldom failed to bring the patient to consciousness, and that almost instantly.

It is very hard to explain the wide and varied effects of acute retroflexion which seem to be out of all proportion to the cause, yet such effects occur. The author has long since learned to EXAMINE THE UTERUS in cases of SUDDEN LOSS OF CONSCIOUSNESS, accompanied by violent symptoms as indicated in the above mentioned cases.

REPLACEMENT. There are several methods employed in replacing a retroflexed uterus. The one method that I use a great deal is to place the patient in the Sims, or semi-knee chest position and introduce one or two fingers into the vagina, two being better and are used if possible. By exerting a steady

pressure against the fundus, which is palpated through the posterior fornix, it can be gradually straightened from its retroflexed condition.

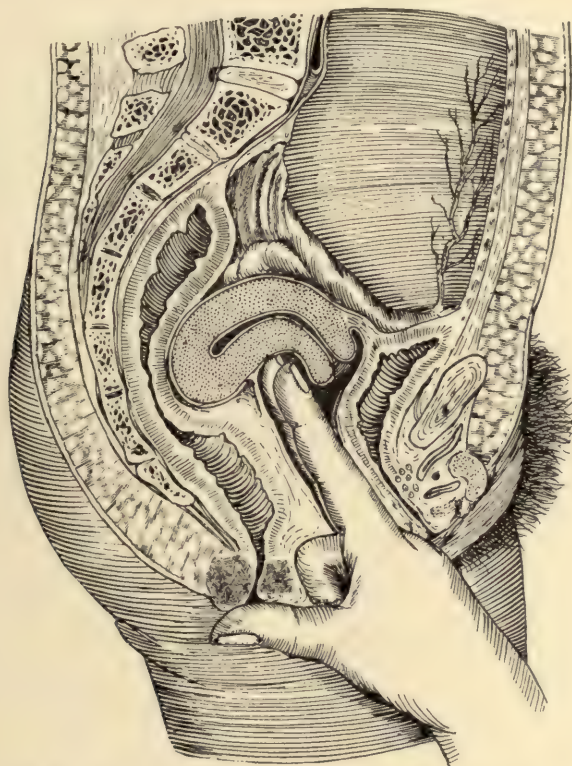


FIG. 79.—Manual replacement of retroflexed uterus. 1st step.

If the uterus is quite firm and retroversion complicates the retroflexion, which it usually does, pressure against the fundus, coupled with traction on the cervix are usually sufficient to rotate the uterus into the normal position. Traction on the cervix is of little value unless the uterus is quite firm, since it bends at the

point of flexion without moving the fundus. Pressure with the external hand, whereby the uterus is forced down within grasp of the vaginal fingers, is very helpful. In some cases it is advisable to balloon the vagina and then instruct the patient to cough,

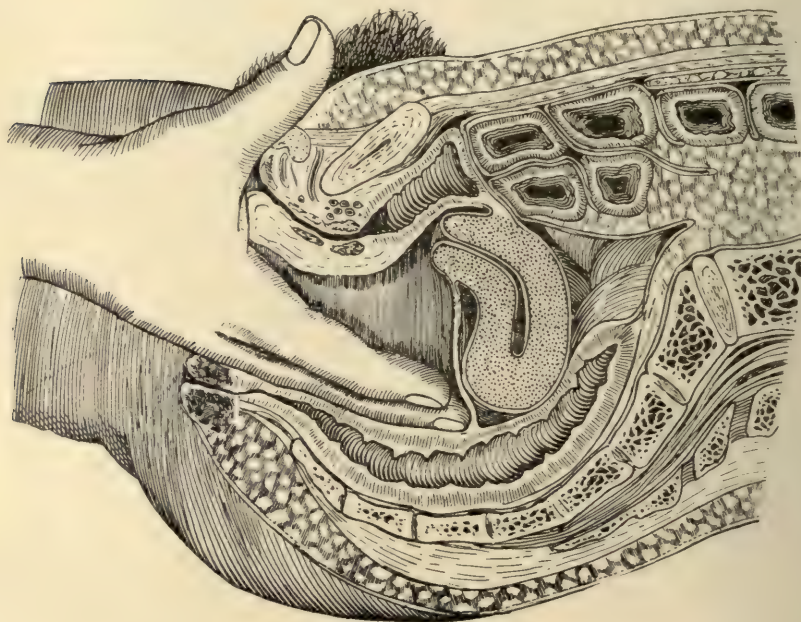


FIG. 80.—Manual replacement of retroflexion. 2nd step.

by which a suction force is exerted and the uterus drawn into place.

After it has been raised it can be grasped by the external hand, if the abdominal wall is thin, and then having the uterus between the two hands it can be readily replaced. In making pressure with the external hand commence quite high, as high as the promontory of the sacrum and work downward toward the

fundus. If the pressure is made low down, the tissues are made more tense and the UTERUS FORCED FARTHER BACK.

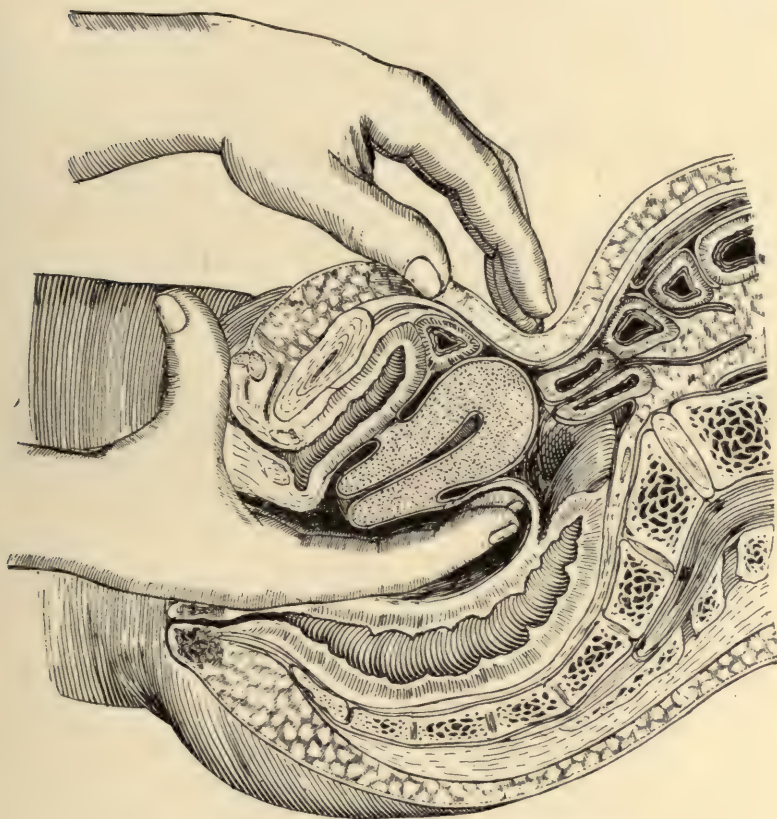


FIG. 81.—Manual replacement of retroflexion. 3rd step.

If the uterus moves upward when an attempt is made to get the vaginal finger behind it, resort will have to be made to a rectal treatment. Through the rectum, the entire fundus can be felt;

and by pressure exerted directly on it through the anterior rectal wall, it can be bent forward far enough to be grasped by the external hand. Again the recto-vaginal method is used in some



FIG. 82.—Showing manner of adjusting wire to uterus in retroflexion. The cervix is fixed by finger passed through loop of wire. (First step.)

cases. This is performed by placing the index finger in the vagina and the second finger in the rectum, then by steadying the cervix with the index finger the fundus is pushed forward by the rectal finger. I seldom use this method.

The **wire repositor** invented by Dr. Still, can be used to ad-

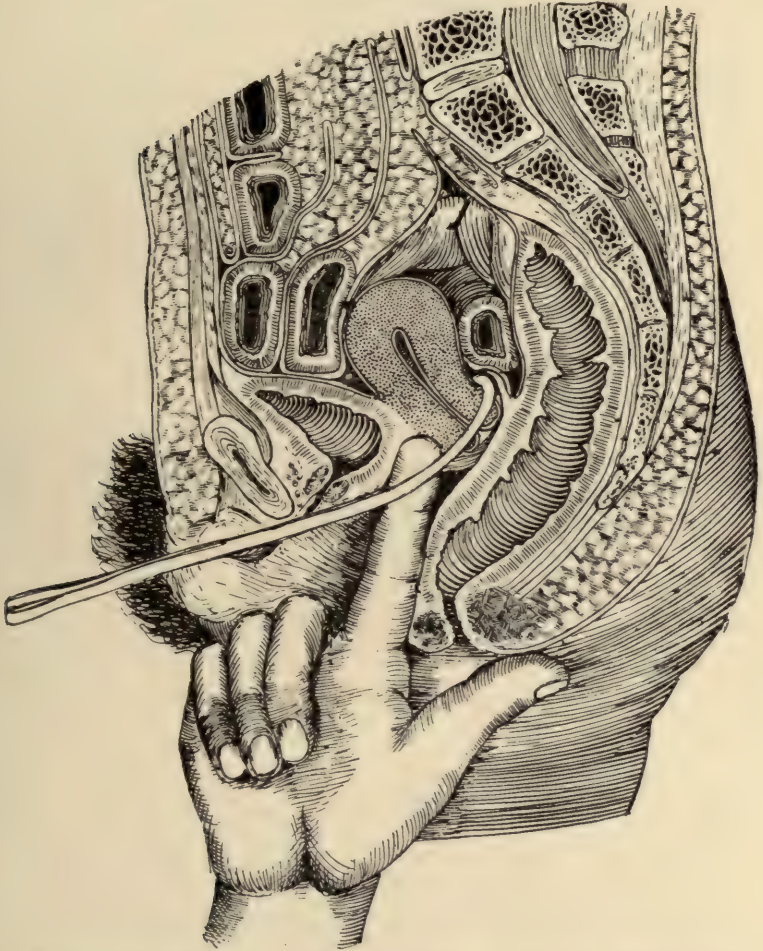


FIG. 83.—Showing manner of replacing retroflexion with wire. (Second step.)

vantage in correcting this form of displacement. The instrument is introduced and the loop adjusted around the cervix. By

lifting directly upward when the patient is in the dorsal position or pulling directly forward when the patient is in the right latero-prone position, the uterus will be partly forced through the loop of the instrument and will be almost entirely straightened. The INDEX FINGER should be introduced and the CERVIX HELD IN THE LOOP if any trouble is experienced in keeping it in the loop. Then by exerting pressure, as in replacement of prolapsus, the uterus can be brought in position. The advantage lies in the fact that the end of the loop being in the posterior fornix, pressure can be made higher, that is, more directly against the fundus than can be made with the unaided finger. The patient should then rest



FIG. 84.—Volsella.

for awhile on her side or chest, until the uterus adjusts itself to the changed relations.

The GENU-PECTORAL position is really the best one to use in replacing retro-deviations not complicated by adhesions. Gravity aids in the operation and usually very little artificial help is necessary. With one or two fingers in the vagina, pressure, if exerted on the posterior uterine wall, will replace it. In some cases the posterior vaginal wall is retracted, thus permitting the entrance of air, which forces the uterus downward; it sometimes returning to the normal position. The reason for this is that when a patient is in the genu-pectoral position, the weight of the intestines is taken from the pelvic viscera on account of the retraction of the intestines. This leaves a partial vacuum in the

pelvic cavity and by admitting air into the vagina the uterus will be forced downward by atmospheric pressure.

If the uterus sags, that is, if the flexion is exaggerated as it is in many cases, volsella are used by surgeons if replacement is effected while in this position. By means of this instrument the cervix can be drawn up, thus allowing the fundus to escape from under the promontory of the sacrum by which the fundus is held. If volsella are not used after the vagina has become ballooned, it becomes necessary to use the rectal method or have the patient assume the erect posture before further attempts at replacement are made. If the fundus is adhered, the knee-chest position only exaggerates the flexion and on vaginal examination the cervix will be found quite high, sometimes entirely out of reach of the examining finger. If the fundus has been caught behind the promontory of the sacrum it can be loosened by the rectal treatment. As in all downward and backward displacements, the patient should rest for awhile after the treatment, on her side or chest.

The SOUND is the last resort and is used after the above methods have failed, which of course is the exception. If the patient has a very thick or contracted abdominal wall, resort to the sound will probably have to be made, as it is very hard to manipulate the uterus if such a condition exists. After a proper preparation of the sound, the patient should be placed in the Sims position; with the right index finger, locate the os uteri. Then with the sound in the left hand, with the concavity backward (an inflexible steel sound being the best) it is pushed without rotation directly into the uterine canal. After it has been introduced the sound is rotated by carrying the handle through a wide arc so as to prevent rotation of the point, which would injure the mucous membrane of the uterus. The handle is then gradually and gently brought backward, thus forcing the uterus into place.

The replacement can certainly be effected in this way, but the most careful precautions will not prevent this method of procedure from producing irritation of the endometrium; hence should not be used if replacement can be effected in any other way.

After all, the HANDS are the BEST REPOSITORS in ordinary cases. The bimanual method has several advantages over all methods. First, it is safer and more convenient and not so likely to be followed by endometritis; second, the lever action of a sound is avoided, whereby an undue amount of force may be used; and third, the operator feels every move; the operation being constantly under his control, and on noting points of resistance he stops before too much force is used.

HOW TO KEEP THE UTERUS IN PLACE AFTER REPLACEMENT. As in ante flexion, the uterine walls must be strengthened; but in addition, in the case of retroflexion, the ROUND LIGAMENTS must be shortened to hold the uterus in position after it has been replaced. By correcting bony lesions that cause a weakening of the uterine walls or their supports, and by relieving the congestion, by removing the obstruction to the proper return flow of blood before the attempt is made to replace it; the uterus will probably be held in position after it is replaced. Usually it does little or no good to replace the organ before its supports have been strengthened, although in some cases it helps to relieve the congestion and inflammation which exist. Frequent local treatments to replace the uterus, as practiced by a great many, ARE WRONG. They keep the parts irritated and do not strengthen the supports but rather weaken them.

The patient should be instructed to not let the bladder get distended or else the uterus will be forced back into its former position on account of the weakness of the round ligaments.

COITION is contra-indicated before the normal tonicity has returned to the parts. Assuming the genu-pectoral position several times daily is very helpful in these kinds of cases. The patient should avoid the wearing of tight clothes or bands, for they force the weakened uterus backward by increasing the intra-abdominal pressure. Strains, lifting of weights, falls, or the doing of anything which suddenly increases the intra-abdominal pressure, readily displace the uterus again, and should be avoided on account of the weakness of the round ligaments.

The most important is to correct the bony lesions found, since they are the REAL; the PREDISPOSING causes. The uterus must be nourished and strengthened; but this can not be done if these lesions which shut off the blood supply are not corrected. Thus they MUST BE ADJUSTED if a PERMANENT cure is expected, or if the uterus is to be kept in PLACE AFTER IT IS REPLACED.

PESSARIES have been recommended, but I never use them in this kind of displacement, for it can be corrected a great deal better without them. If an artificial support is necessary, a tampon of lamb's wool should be used. A single tampon placed in the posterior fornix will often hold the uterus in position. A chain tampon is better in the average case, because the pressure is the better distributed.

OPERATIONS have been devised whereby the uterus is fixed to the abdominal wall, or the round ligaments shortened. The first is performed in two way; either by an abdominal incision which is called abdominal hysterorrhaphy; or through the vagina, this being called vaginal hysterorrhaphy. The operation for shortening the round ligaments is called Alexander's operation. Only mention will be made of these operations since operative gynecology is not practiced and seldom advised by the osteopathic physician.

It seems that our modern gynecologists treat all forms of retroflexion alike, regardless of the many different causes producing them. Pessaries are introduced or operations performed,

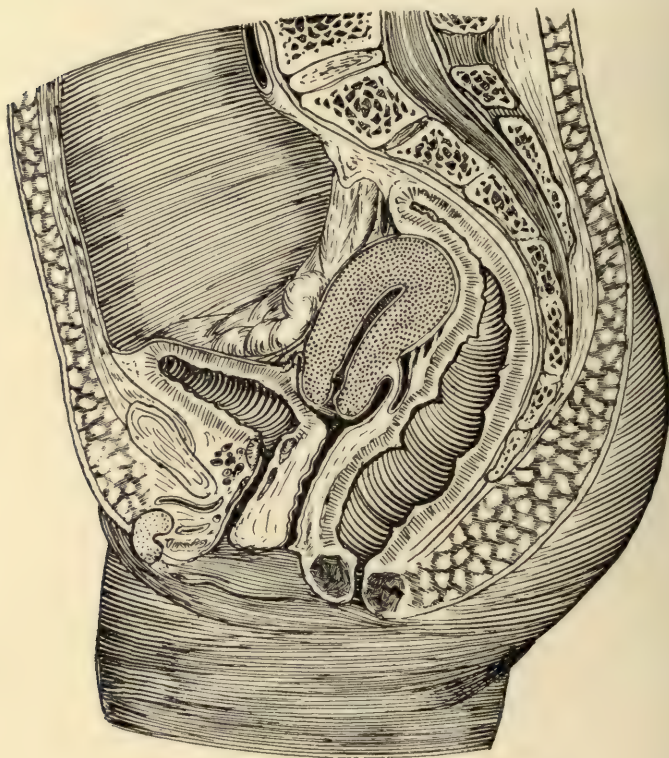


FIG. 85.—Retroversion of the uterus. 1st degree.

which are sometimes far more dangerous and cause more trouble than the original disturbance for which the treatment was given. At the conclusion, the woman is told that “the uterus is now in place” and that her symptoms ought to leave. The woman, not caring where the uterus is so long as she is free from pain, suffers

on, unless the cause has been removed. I know of no kind of cases that so strictly belongs to the osteopathic field, since we cure so many where others fail. The cause of the trouble in the individual case must be found and corrected or else the routine treatments are in vain, or at least are only palliative and serve to give only temporary relief.

RETROVERSION. **Retroversion** is that form of displacement of the uterus in which the fundus is turned backward and the cervix forward, changing the uterine axis but not bending the canal. It is frequently associated with retroflexion, and the causes, in a great many cases, that produce the one will produce the other. It is recognized as an early stage of prolapsus, in fact it is called the first stage of prolapsus uteri; yet SLIGHT PROLAPSUS is PRIMARY or else the fundus could not tip back very far on account of the promontory of the sacrum. Sometimes it is rotated so far backward that the fundus lies in the hollow of the sacrum with the cervix pointing forward.

In this displacement, the intra-abdominal pressure is directed on the fundus or anterior wall of the uterus, which exaggerates the condition and promotes prolapsus. It is a form of displacement which most frequently comes on suddenly, or, as in the most chronic cases, it comes on gradually as the result of the gradual relaxation. It is the forerunner of retroflexion. The uterus is first retroverted, then its position weakens the support of the fundus and it gradually bends backward and downward.

There are THREE accepted **degrees** of retroversion. In the first degree, the long axis of the uterus is in line with the axis of the vagina. In the second degree, the axis of the uterus occupies an angle of one-hundred and thirty degrees to that of the vagina, and in the third degree, an angle of ninety degrees to that of the vagina; or in other words the uterus is turned as far backward

as it should be forward. There are many minor degrees of retroversion between the limits mentioned above.

CAUSES. The most frequent causes are those which put a sudden strain on the round and sacro-uterine ligaments. If a



FIG. 86.—Retroversion of uterus. (Bad form.)

patient should suddenly slip, or lift a weight while in a stooped position, it very frequently brings on an acute retroversion. I have seen cases that resulted from coughing or turning suddenly over in bed. Sudden falls on the buttocks, such as would result

from some one pulling a chair from beneath a patient in the act of sitting down, will cause it in nearly every instance. Jumping from a bicycle, alighting very hard on the feet, or any jar of the body, has a tendency to produce this kind of uterine displacement. This is especially true if the bladder is distended at the time of the strain or fall. I have known confirmed invalids who dated their trouble back to the time when they strained themselves by carrying a bucket of water. I recently had under my care a lady, who had a backward fall on the ice resulting in a retroversion which has made her a chronic invalid.

These displacements the more easily occur, if any bony lesion exists which has weakened the supports. If the bony pelvis and lumbar spine are properly adjusted, retroversion is not likely to occur; or at least it will occur with difficulty, even if there is a fall or heavy strain, but when it is once thrown backward regardless of whether or not lesions exist, the abdominal pressure tends to force it still further backward and downward.

These lesions predispose to displacement by so weakening the supports that the exciting cause the more readily acts. The most common lesions are a subluxated innominate, sacrum, coccyx and particularly lesions of the LUMBAR VERTEBRAE should be considered of very great importance as causative factors in retroversion, as well as in any other form of uterine displacements.

A WEAKENING OF THE UTERO-SACRAL LIGAMENTS permits the lower part of the uterus to sag down and the upper part to be rotated backward. This relaxation of the utero-sacral ligaments precedes nearly all cases of gradual displacement. This permits the cervix to sink downward and forward, simultaneously. Unless some downward movement takes place, the average sized uterus can not rotate backward to any marked extent on account of the sacral promontory. This relaxation is the result of a

displacement of the sacrum, to which these ligaments are attached; lesions in the lumbar region, and intra-pelvic diseases, such as subinvolution and inflammation, which affect all the

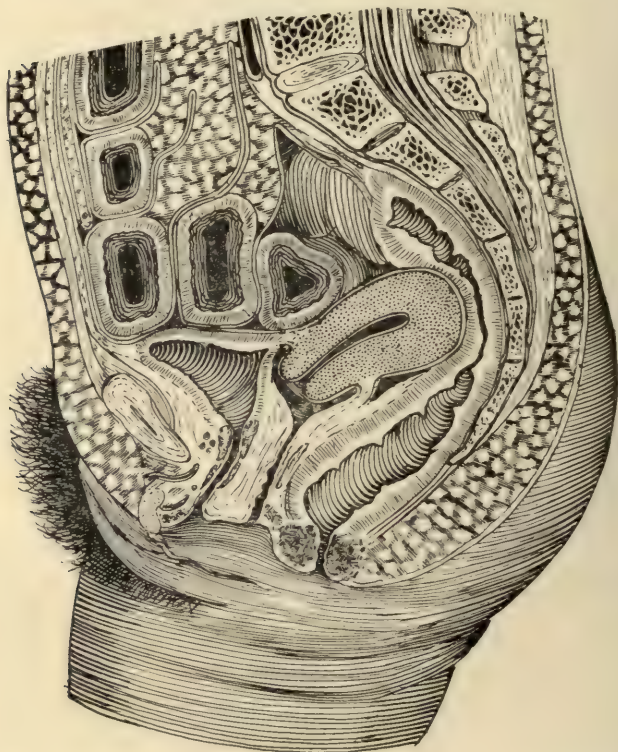


FIG. 87.—Retroversion of uterus. 2nd degree. Showing direction of abdominal pressure and position of intestines.

pelvic ligaments. If a distended condition of the bladder exists as shown in Fig. 88 it increases tendency to backward rotation.

Prolapse of the bladder and rectum have a tendency to produce retroversion. Relaxation of the perineum and vaginal

walls are found in nearly all chronic cases, probably as a cause rather than an effect. The non-return of the uterus to its normal form and position during the puerperium is a cause of retroversion

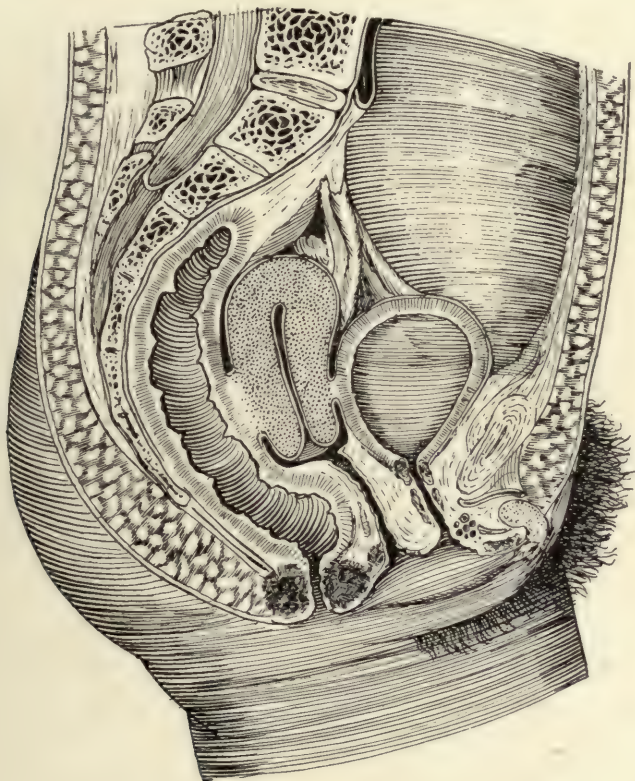


FIG. 88 —Uterus forced back in distention of bladder.

in multipara. A knowledge of the condition of the uterus will explain the occurrence of this displacement during the puerperium. In the first place the TWO FACTORS, INCREASED WEIGHT and RELAXED supports are present. By permitting the patient

to lie on the back too much, or allowing the nurse to put on a tight abdominal bandage (which by the way, is an abomination) the uterus is kept near, or forced backward against, the sacrum.

FIBROID TUMORS on the anterior wall of the uterus force it back in retroversion as well as in retroflexion. There is marked rigidity in such cases in the entire uterus plus the usual indications of fibroids.

SYMPTOMS. The **symptoms** are very similar to those of retroflexion; RECTAL disturbances, deranged MENSTRUATION, abnormal SECRETIONS, BEARING DOWN sensation which is worse on standing or walking, PAIN over the sacrum, sometimes COCCYDYNIA and ACHING in limbs, and the REFLEX PHENOMENA. The patient may have headache, hemicrania, pain in eyeballs, intercostal neuralgia, gastralgia, or other visceral derangements.

The most common of the reflex phenomena are vertical and occipital headache, megrim, pain between the shoulders, nausea and spinal irritation. In cases in which it comes on suddenly, there will be the sensation of something having "given away," backache and reflex disturbances, such as nausea, and vomiting, headache and pain in the abdomen. Instead of dysmenorrhea a mild form of menorrhagia more frequently prevails. The cervix may irritate the bladder by direct pressure and cause frequent micturition, but this is the exception rather than the rule.

The pressure exerted against the rectum, increases the tendency to CONSTIPATION or it interferes with the rectal circulation, on account of which many rectal diseases result, such as rectal ulcers, piles, tenesmus, prolapsus of the bowel and eversion of the anus.

LEUCORRHEA is present on account of the congestion of the uterine and vaginal walls. In recent cases, the pain is very frequently referred to the region of the stomach, small intestines,

gall bladder, or to some organ even higher in the abdominal cavity. There is cramping of the abdominal muscles and tenderness over the entire abdomen.

There are quite a number of conditions complicating retroversion. A PROLAPSUS of a varying degree is present in most cases. This is due to a change of position of uterus, its axis being in a line with axis of the vagina, and to relaxation of supports. ADHESIONS are commonly found. The pressure of the uterus on the sensitive peritoneum is very likely to irritate it and set up INFLAMMATION, the result being an adhesion, unless the uterus is replaced. The OVARIES AND TUBES are carried back with the uterus, hence their function is impaired. There is usually inflammation of the uterus and peritoneum, which if present when the ovaries and tubes are in the pouch of Douglas, results in adhesions. Rectal troubles as mentioned above, are frequent, such as constipation, diarrhea, prolapsus of bowel, tenesmus and hemorrhoids, all of which often follow from pressure against the rectum. Metritis and endometritis are present in most cases of backward displacement. This is due to circulatory changes resulting from the displacement.

Diagnosis. The **diagnosis** is made by locating the CERVIX low down in the vagina and POINTING TOWARD the OUTLET or symphysis pubis. The finger passed into the posterior fornix, discloses a hard, round mass, continuous with the cervix and resting against the rectum. By the bimanual method the fundus is not found in its normal position, that is, it is not found on palpating through the anterior fornix.

By the RECTAL examination the fundus and body are plainly felt resting against the rectum. The uterus is usually found to be rigid and fixed in its position. I have seen a great many cases in which the uterus entirely occluded the lumen of the bowel and

had to be forced forward before the finger could be introduced into the rectum. A fibroid tumor on the posterior uterine wall may cause rectal symptoms, but the direction of the uterine axis as demonstrated by the position of the cervix and fundus, depth

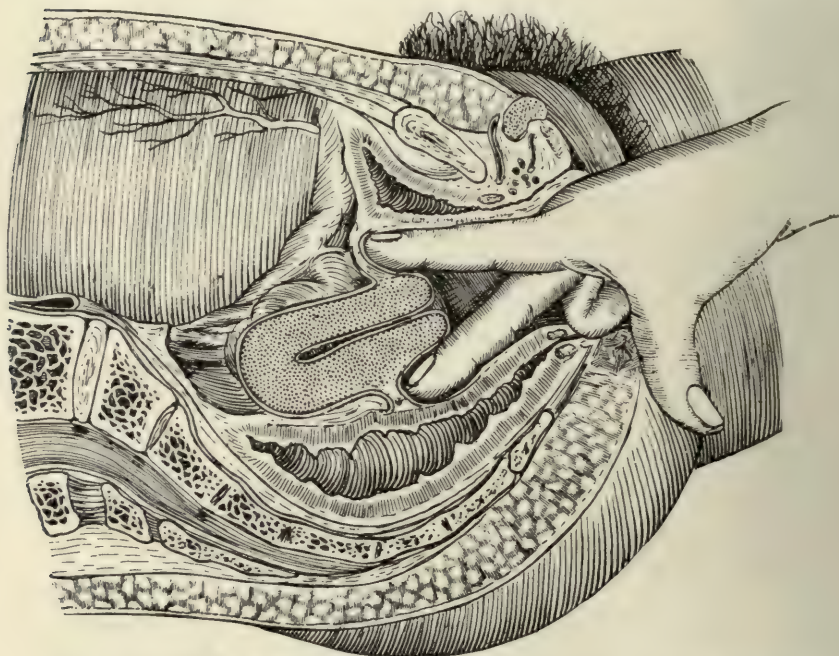


FIG. 89.—Manual replacement of retroverted uterus with patient on left side. (1st step.)

of uterine cavity, and the conjoined examination, will clear up the diagnosis.

TREATMENT. In cases in which there is retention of tone in the pelvic floor, vaginal and abdominal walls, and the uterus with its ligaments, and in cases in which the displacement came on suddenly, **the treatment consists of replacement.** Such cases are found principally in nullipara .

In cases in which all the supports are relaxed and weak, and the displacement is the result of causes more or less continuous for quite a long while, the primary treatment is one directed to RESTORE TONE to the support AFTER WHICH, replacement of

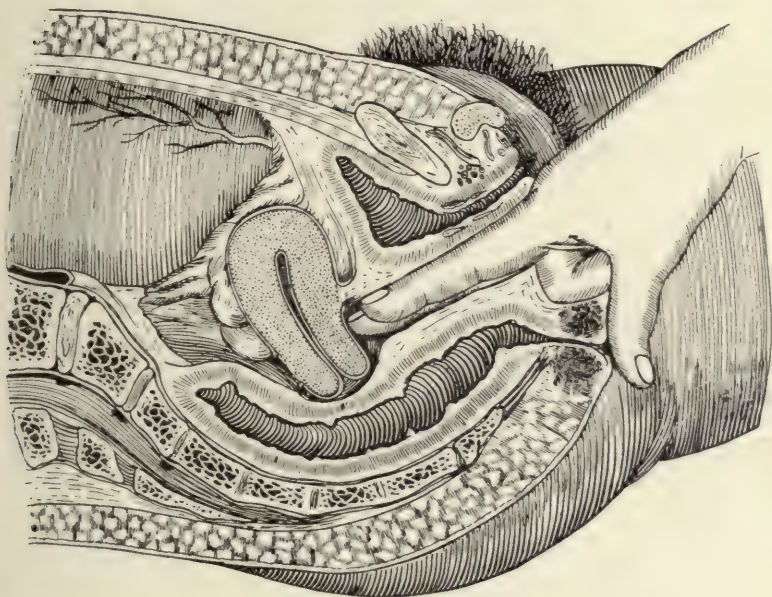


FIG. 90.—Manual replacement of retroverted uterus. (2nd step.)

the uterus. Yet in such cases it is well to replace the organ from time to time, as this helps to relieve the congestion, lessens its weight, hence assists in restoring strength to the pelvic floor. Replacement is effected in the ways similar to those mentioned under the head of replacement of retroflexion.

Pressure exerted against the posterior uterine wall by means of the index finger, either through the posterior fornix or anterior rectal wall, is a method I most commonly use at first to determine

the extent of adhesions and size of the uterus. If it cannot be replaced in this way I place the patient in the semi-knee chest position and introduce two fingers in the vagina. Pressure is

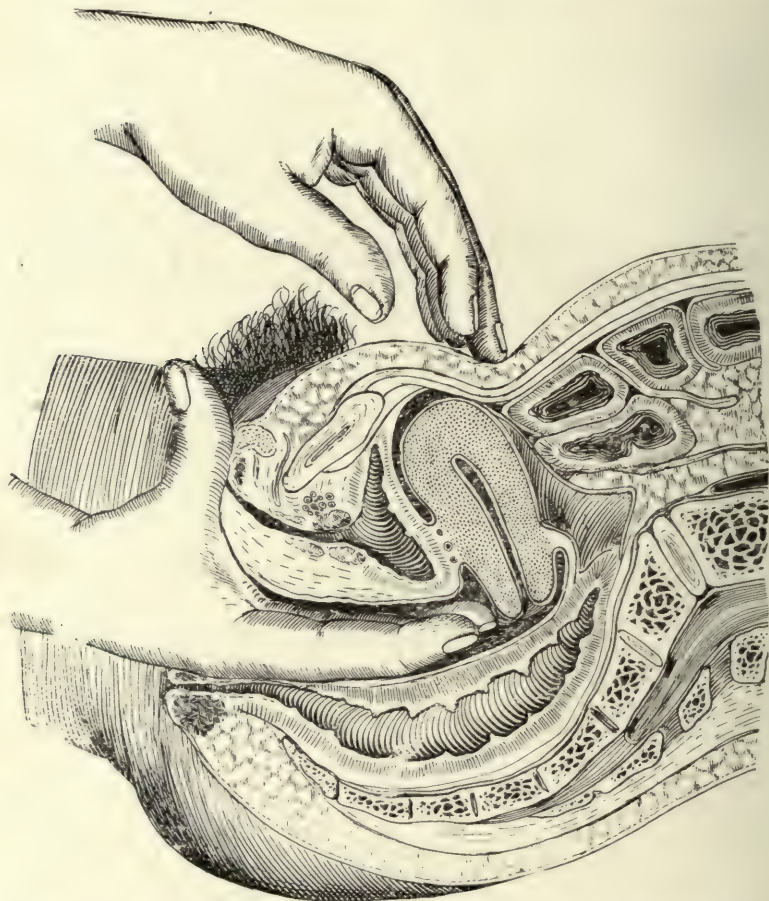


FIG. 91.—Manual replacement of retroverted uterus completed. The cervix is forced as high as possible and the intestines pushed behind uterus thus preventing recurrence.

exerted against the posterior uterine wall, through the posterior fornix by the middle finger. Traction backward on the cervix with index finger tends to pry the uterus forward. Combining the two, that is, pressure forward on the body and traction back-

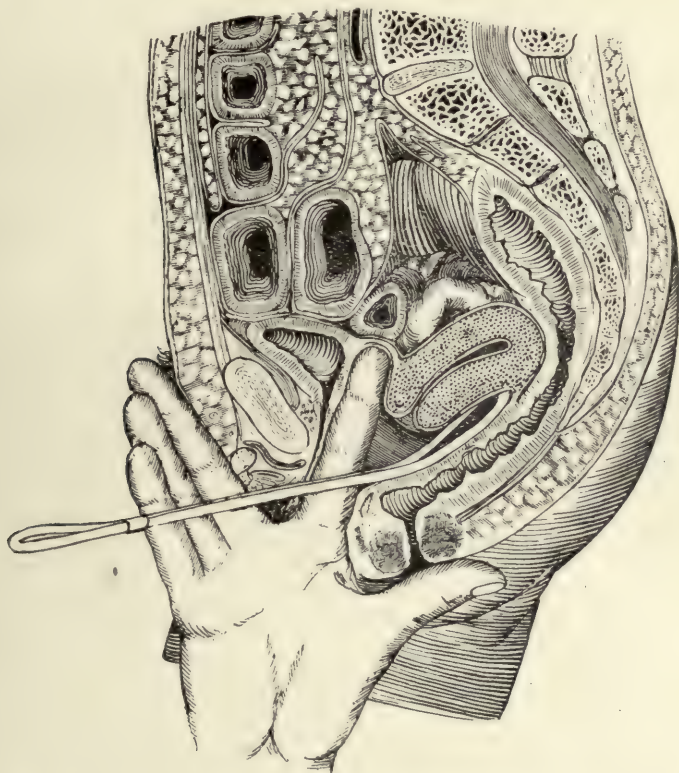


FIG. 92.—Replacing retroverted uterus with wire, finger in vagina. 1st step.
Patient on right side.

ward on cervix, the uterus is rotated around the fixed point,—the attachment of the utero-sacral ligaments.

If adhesions are present they can be gradually broken up by

this method. In some cases in which the fundus seems glued to the sacrum it is hard to get pressure high up that is sufficient to push the fundus forward. In such cases the "Old Doctor's"

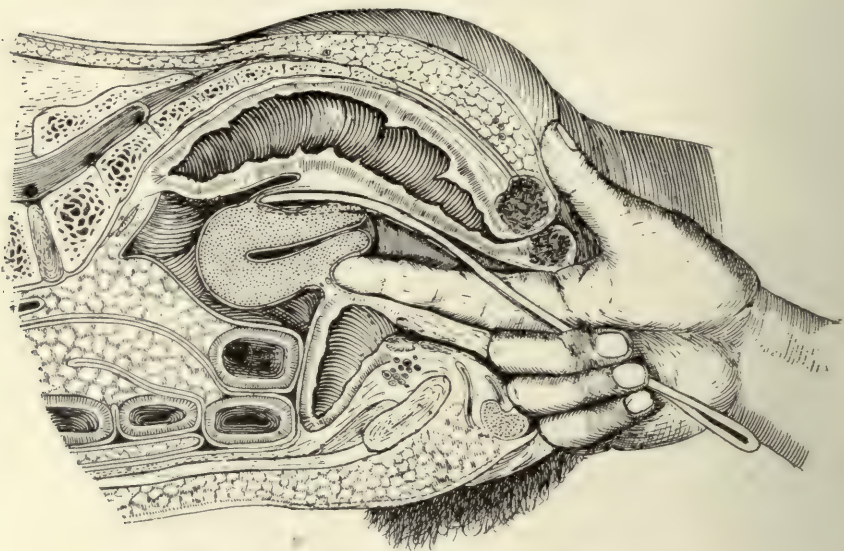


FIG. 93.—Replacing retroversion with wire repositior. 2nd step.

wire is a handy substitute; with it pressure can be exerted high up against the body in the posterior fornix, and the uterus forced forward.

Sometimes simply admitting air into the vaginal cavity will cause the uterus to resume its normal position, unless there are adhesions, or unless it is caught behind the promontory of the sacrum. If these methods fail, and they seldom do, a sound is commonly used; the replacement being accomplished by this method. To keep the uterus in place let the patient rest either on her face or side as long as possible after the treatment and avoid the conditions that were primarily responsible for the displacement.

The **obstacles** preventing, or making replacement difficult, are INFLAMMATION OF the uterus and ADNEXA, and adhesions or incarceration of the fundus under the promontory of the sacrum. Adhesions can gradually be overcome by repeated attempts at

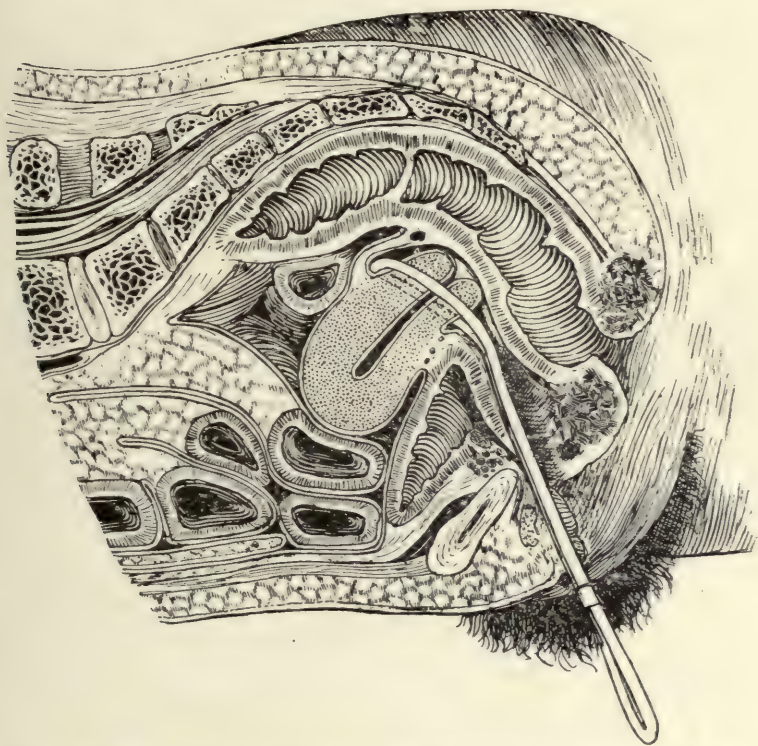


FIG. 94.—Replacement of retroverted uterus with wire repositor completed. * Patient on right side. Note position of handle.

replacement whereby the bands are stretched or broken. In cases of pelvic inflammation, the tenderness should at least be partly relieved before much local treatment is given, unless displacement is the only cause of it. To relieve the tenderness,

treatments given in the genu-pectoral position by which the prolapsed condition of the pelvic and abdominal viscera are at least partly overcome, are the best. In chronic cases, strengthen the supports, particularly the round and sacro-uterine ligaments by osteopathic treatment. This treatment is directed to the reduction of lesions both bony and muscular.

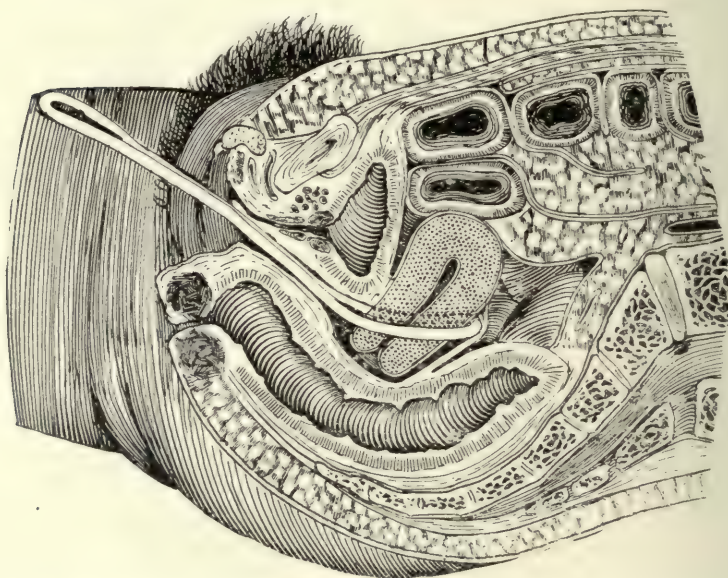


FIG. 95.—Showing uterus forced through the loop of the repositor in replacing retroversion and prolapsus.

• According to most writers all the uterine ligaments contain muscle fibers, especially the round and sacro-uterine. By restoring tone to these ligaments the uterus will gradually be drawn into place. Advise the patient against walking or standing too much, or doing any work whereby strain will be thrown on the abdomen, until after the uterine supports have been strengthened.

LATERO-FLEXION. The uterus usually lies somewhat to the left of the median line of the body. Sometimes by inflammation of one of the broad ligaments, cicatricial tissue will be formed, this contracting and drawing the fundus or body to that side. This constitutes **latero-flexion**. It can readily be DIAGNOSED by locating the fundus and cervix by the bimanual method, the fundus being found bent to one side or the other. On vaginal examination the broad ligaments on the affected side will be found tender and tense and the fundus can be felt drawn to that side.

LATERO-VERSION is a condition similar to latero-flexion, but in addition, the cervix is drawn to the opposite side to that to which the fundus is drawn, and the uterus lies at an angle. It is, like latero-flexion, also caused by adhesions or by growths that are sometimes found between the layers of the broad ligaments. NO SPECIAL SYMPTOMS, except sterility, follow these lateral displacements; however, there may be cellulitis or inflammation of the broad ligaments on the affected side, such being indicated by tenderness and contracture of the tissues. Latero-versions can be readily recognized by bimanual palpation. They are treated by producing absorption of the inflammatory exudates and restoring a normal circulation to and through the broad ligaments. This is accomplished best by correcting lesions of the innominate on the same side, and by local treatments directed to restore normal position and mobility to the uterus.

There are various UTERINE DISPLACEMENTS that are not typical; that is, there is a combination of two or more displacements. Often a case is found in which the UTERUS HAS SLIPPED BACKWARD, the uterine axis is unchanged, but the cervix is compressing the rectum. Again the uterus may be retroverted against the sacrum, yet there is a curve in the uterus making it a slight

anteflexion. In such cases the uterus seems to be moulded to the anterior surface of the sacrum.

ASCENT OF THE UTERUS occurs in some forms of disease of neighboring organs or structures. In PERITONITIS or bowel disturbances or diseases of the peritoneum, the uterus is drawn upward. In fleshy people the uterus is often very high. In arthritis deformans, the uterus is often drawn upward. In a case treated by the author the uterus could scarcely be reached by vaginal examination. Fibroid tumors when large, draw the uterus upward.

Torsion of the uterus is usually not an independent displacement but one complicating the more common uterine deviations. This displacement is the result of the thickening of the connective tissue surrounding the supra-vaginal portion of the uterus. This thickening follows parametritis on account of the inflammatory deposit in the connective tissue.

The effect is similar to that in lateral deviations, that is a sense of pulling or drawing in the affected side, accompanied by "side ache," and pain, which are frequently diagnosed as OVARIAN TROUBLE. The TREATMENT is the same as in lateral deviations.

COMPLICATIONS OF UTERINE DISPLACEMENTS. Nearly all forms of displacement set up an inflammation either in or around the uterine walls. Metritis, cellulitis, peritonitis, oophoritis and salpingitis are the most frequent complications. In other cases these inflammatory conditions, mentioned above, may be primary and the displacement follows from contraction of the ligaments; or perhaps the ligaments may be left in an atonic condition and the uterus not being securely supported becomes displaced. The MORE ACUTE the DISPLACEMENT, that is, displacements resulting from falls or like causes, the MORE INTENSE and acute the complications. The MORE GRADUALLY the displacement occurs, the less intense the complications.

In acute displacements, the complications are due to the congestion and inflammation in and around the uterus. In gradual displacements the complications result mostly from pressure or traction of the uterus on the adnexa. The complications can seldom be cured, without correcting the original disturbance BUT ARE OFTEN RELIEVED.

The MENSTRUAL DISORDERS depend upon the amount of blood in the uterus, the amount of inflammation, the degree of contraction or relaxation of the uterine walls, the size of the internal and the external ora, and character of the expellant forces of the uterus; any or all of which may be affected by the displacement.

The weakest abdominal or thoracic viscus will be affected reflexly, producing a functional disturbance in that organ.

The following named affections constitute a partial list of the complications of uterine displacements:

Eye troubles, pain in the ear, toothache, migraine, throat disturbances, enlarged thyroid glands, hypertrophied tonsils; mammary disturbances, such as a retracted nipple, lumps in the breast, atrophy, mastitis and ulceration resembling cancer; palpitation of the heart; stomach disorders, mainly dyspepsia and nausea, liver engorgements, liver spots; cutaneous eruptions, intestinal indigestion, enteralgia, kidney affection; spinal curvature and irritation, sciatica, Mortons toe, or cramping of toe, and pain at knee, foot or heel.

REMEMBER that it does very little good to replace the displaced uterus when the supports are soft and weak, on which account one should first direct the treatment to BUILD up and STRENGTHEN the SUPPORTS; that a VERSION is usually of SUDDEN OCCURRENCE, while a FLEXION is a GRADUAL one; that temporary relief can often be given by SIMPLY LIFTING UP THE UTERUS; that

in case of syncope, the patient can frequently be aroused by local treatment when all other methods have failed; that a chronic pain below the waist line, or headache in the top of the head, points to uterine disturbances; that 90 per cent. of women, have some form of uterine displacement which is the cause of most of their pains and aches. Also remember that a fixed, immovable, or slightly movable uterus is abnormal regardless of its position; that a uterus that is very hard or quite soft is abnormal. Dr. Still says that a uterus is abnormal if it has dropped through, or is putting traction on, the various bands or ligaments that cross the pelvic cavity surrounding the uterus, bladder and rectum. These bands of which the broad ligaments form the greatest part, constitute the "pelvic " floor. By lifting the uterus through the opening resulting from a separation of these ligaments and fascia, by means of the wire uterine repositr, the symptoms of the displacement can be relieved. In many cases of female trouble with the usual symptoms of displacement in which the uterus is apparently normal, simply lifting up the uterus will usually relieve the pain and ache.

INVERSION OF THE UTERUS. **Inversion** of the uterus is a partial or complete turning of the organ inside out; so that the endometrium, if inversion is complete, forms the covering membrane, and the peritoneum the lining of the uterine cavity. A partial inversion is one in which some part of the uterine wall, usually the fundus, is depressed in a way similar to a dent in a hat. In complete inversion the uterus is completely turned wrong side out. This condition is usually associated with childbirth as a cause, but some times it results from other conditions, such as senile atrophy of the uterus, or softening of the walls from other causes.

Causes. In order that inversion be produced, there must

be a DILATATION OF THE UTERINE CAVITY; a WEAKNESS of a part or all of the WALL of the uterus, and SOME FORCE must be exerted, such as the abdominal pressure or traction from below as in an adhered placenta or polypus that is attached to the mucous membrane lining the upper part of the uterine cavity.

The dilated or DISTENDED cavity, is most frequently found immediately after parturition, and being one of the most essential causes, we find inversion most frequently occurring at this time. In order for the cavity to exist or be formed, there must be a thin and weakened condition of the walls of the uterus. This weakness follows an over-distention of the uterine cavity. This results from HYDROPS amnii or from TWIN PREGNANCY, or is caused by some interference with the nutrition of the walls. If there is traction from below, such as pulling on the UMBILICAL cord during the THIRD STAGE OF LABOR, or if the pressure of a polypus occurs while the walls are in this weakened condition, a partial inversion will result. If there are violent contractions during the third stage of labor, it may, like invagination of the intestines, force the fundus down into the uterine cavity. This may occur in the latter part of the second stage of labor, that is, immediately following the expulsion of the child.

Frequently it is caused by the improper management of the third stage of labor. INJUDICIOUS KNEADING of a weakened, flabby uterus during the third stage of labor, especially if localized, that is confined to one part of the uterus, will often cause an indentation from unequal contraction.

A SHORT cord is sometimes the cause of inversion. A weakened condition of the uterine wall at the placental site, permits of a partial inversion at that point.

Inversion not associated with parturition, is sometimes the result of a fibroid tumor forcing in a weakened wall. A polypus

attached to the lining of the fundus may, by setting up uterine contractions, be forced downward and will pull the uterus with it. In cases of senile atrophy or where there is a circumscribed metritis, that part of the uterus may partially invert. I have seen cases in which there were a great many disturbances at or following the menopause, which were due to a partial inversion.

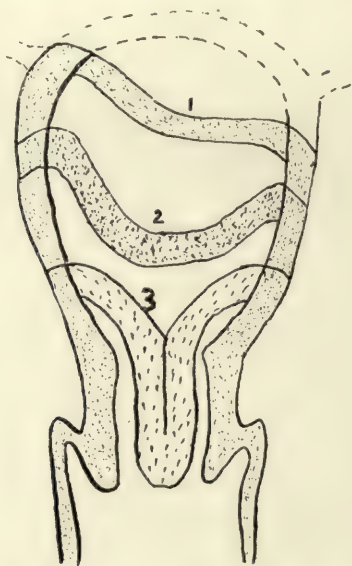


FIG. 96.—Inversion of the uterus showing different degrees. (Diagrammatic.)

The ESSENTIAL ELEMENT, which is the predisposing cause in inversion, is an ATONIC STATE OF A PART OF THE UTERINE WALLS, favoring relaxation of the muscle fibers. This leads to a partial prolapse of a portion of the wall and is associated with a regular contraction of the muscular tissue. The prolapsed portion is treated by the uterus as a foreign body; it excites uterine contraction, which ends in a complete or partial expulsion, of the prolapsed part. The cause of this atonic state of portion of the

uterine wall in chronic cases can be, in most instances, traced back to a lesion in the bony framework, which interferes with the nutrition of the uterine walls.

SYMPTOMS. In complete inversion, a tumor is seen protruding from the vagina, simulating a polypus. There is hemorrhage, constant or periodical, bearing down pains which increase on movement of the body and vesical and rectal disturbances. These symptoms vary with the degree of inversion and the cause of the trouble. If it is a complete inversion following delivery, all these symptoms are exaggerated and the hemorrhage may be fatal, but if it is a chronic case the reflex pains are the principal symptoms. In acute forms, the patient in many cases, collapses from loss of blood.

If the **PARTIAL INVERSION** is the result of parturition, the **LOCHIAL DISCHARGE** will continue for several days, or even weeks longer, than the normal. The flow will be abnormal in character and quantity, it usually becoming arterial. **AFTER-PAINS** are present in a severe form. This condition exists in some cases for quite awhile after delivery and occasionally causes a marked derangement of the nervous system. Dr. C. E. Still recently reported to me a case of **PUERPERAL** insanity treated by him, that occurred within a few weeks after labor. The usual symptoms were present, that is, the lochial discharge was abnormal and the after-pains severe. On local examination a partial inversion was discovered. A large blunt sound was introduced into the uterus by which the fold was straightened by turning the sound while **IN UTERO**. The patient was immediately relieved and in a short time, (only two treatments were given) she became perfectly rational and was soon discharged as cured. The patient remained well when last heard from, some months afterwards.

In **CHRONIC** cases there is an anemic condition and reflex

circulatory disturbances such as TINNITUS AURIUM and chronic headaches. Menstrual irregularities occur in chronic cases. The flow is profuse at some periods, premature in others, and frequently there is marked cramping. The menstrual period will often last a week or more, which results in nervousness and weakness.

DIAGNOSIS. INVERSION FOLLOWING DELIVERY should be suspected from the severe pain, the hemorrhage more or less continuous, and the absence of the fundus of the uterus upon the placing of the hand upon the lower part of the abdomen. The diagnosis is made by seeing the uterus as a raw looking tumor lying between the labia, with the large end the more prominent.

Apart from obstetrical cases it is usually very difficult to diagnose a slight inversion. In the ordinary type a fold can sometimes be felt through the fornix in the uterine wall. It feels as if the uterus had settled or folded down on itself as would an empty sack if unsupported. In such cases if a large sound, one as large as the index finger, is introduced and the fundus lifted or the sound rotated as above suggested, this fold can be straightened but possibly will not remain normal but recur, since the weakened uterine wall is the primary cause.

In recent cases, prolapsus is diagnosed from complete inversion by locating the cervix and os at the lower end of the protruding mass. In procidentia the tumor is narrow at the base and wide at the upper part, while in inversion it is just the reverse. The covering of the protruding tumor will assist in the diagnosis, since in prolapsus it is smooth and shiny; in inversion it is a mucous membrane and is raw and bleeding.

A POLYPUS may protrude and thus simulate an inversion. The color, consistency and mode of onset help, but a complete diagnosis is made by a rectal and bimanual examination, this revealing the uterus to be in the pelvic cavity.

TREATMENT. The TREATMENT differs in the two forms of inversion. When it immediately follows childbirth all that is necessary is to replace the organ, it being comparatively easy in such cases. Pressure exerted directly against the fundus will usually accomplish the re-inversion. Sometimes one finger is placed in the rectum in order to assist in the operation, since in this manner the cervix can be reached and the os be helped to dilate. In irreducible cases an operation is resorted to by which the os is artificially enlarged or a part of the fundus amputated.

Following reduction the uterus should be made to contract in order to prevent too much hemorrhage. This is done by work directly over the uterus through the abdominal wall, or if it can not be accomplished this way, an astringent solution is injected directly into the uterine cavity.

In chronic cases not immediately following parturition, a dull blunt sound as mentioned above, can be introduced into the uterus to push up the partial inversion. Care should be exercised in this or else the weakened uterine wall will be injured, and also as large a sound as can be introduced should be used, since it lessens the liability to injury.

Since these changes are due to atrophy and weakening of the uterine wall the treatment should be directed to strengthen them in addition to replacing the prolapsed condition of the wall. When the inversion is produced by pressure from a growth such as a fibroid tumor, the treatment should be directed to reduce the growth or the pressure exerted by it, since that is the cause of the trouble. In cases of partial inversion that occur in multipara after they have passed the menopause, little can be done on account of the atrophied and weakened condition of the uterine wall. Strong stimulating treatment applied to the back, to correct the muscular as well as the bony lesions, is beneficial, and if the case is not one of too long standing, or one in which the walls have not become very much weakened, the condition can be helped if not cured.

TUMORS OF THE UTERUS.

DEFINITION AND CLASSIFICATION. Gould defines a tumor as (1) "any enlargement or swelling of a part;" (2) "a new growth not the result of inflammation or hyperplasia." The true tumors are usually included under the latter definition. In **structure**, a tumor consists of tissues which resemble the normal tissues of the body either in a mature or an immature state. Thus a tumor may be composed of muscle fibers, connective tissues, fat, etc., or of cells like those constituting the epithelium. They are **HOMOLOGOUS** when they resemble or continue to grow in the tissue in which they originate, merely displacing the surrounding tissue. Such are usually innocent tumors. The **HETEROLOGOUS** tumors originate in one tissue, and retaining the type of that tissue, **INVADE ANOTHER** tissue. They are generally malignant, the epithelioma being a type. Innocent tumors are usually composed of a matured tissue of the body, while the malignant on the other hand usually consists of cells like those of the lower organized or immature tissues.

FIBROID TUMORS of the uterus are innocent tumors which occur in or on any part of the uterus, but are found most frequently to be located in or on the fundus. In structure, they are made up of the constituents of the uterine wall, that is, connective tissue, unstriped muscle fibers, and fibrous tissue, and should properly be called fibro-miomata. They also contain blood vessels, lymphatics, occasionally glandular structures and possibly nerves.

The tumors that are composed almost entirely of muscular fibers are rare. Occasionally in the early stages, that is before the tumor becomes an inch in diameter, these fibers predominate but soon are displaced by connective or fibroid tissue. The INTERSTITIAL variety is always at first composed of muscle fibers, hence are called myomata. As the tumor develops the muscle fibers are gradually replaced by fibrous tissue, so when the tumor becomes as large as a croquet ball, it is almost entirely fibrous in character. Fibro-myomata are the most frequent of uterine growths and occur most commonly between the ages of thirty and forty-five.

Hirst, in speaking of fibro-myoma, says that it may be found in the uterus of at least 20 per cent. of women over thirty-five years of age. This is possibly too high an estimate for all cases, but probably not too high for nullipara. Their growth is very slow, the rapidity depending upon the vessel union with the uterus.

FIBROMATA, as a rule, increase in size ONLY DURING THE period of sexual activity and remain stationary or undergo atrophy after the menopause. They seldom if ever originate in the uterus before puberty or after the menopause. A case of a fibroid tumor in a lady 63 years old came under my care. The tumor was about three inches in diameter, very hard, but caused little inconvenience outside of some pressure disturbances. The uterus was forced down almost to the degree of procidentia. Although such displacements are, as a rule, quite painful, yet it caused this patient but little trouble.

I have seen in the young, localized enlargements in the lower part of the abdomen which had been diagnosed as fibroid tumors, but they turned out to be some form of bowel trouble, such as impaction, pregnancy, congestive hypertrophy of the uterus, ovarian cyst, or ascites.

Fibroid tumors are RARELY FOUND SINGLY in the uterus, there usually being several, which are irregular, and vary in size. As high as fifty different tumors have been found. In such cases they coalesce and form one irregular conglomerate tumor, hard and nodular to the touch.

Their SIZE varies from that of a pea, to that of a tumor weighing fifty or sixty pounds, or even as high as one hundred and forty five pounds, as reported by one author. They are most frequently located in the posterior wall of the fundus; less frequently in the anterior wall and sides. It is a common saying that a woman IS ALWAYS LOOKING FOR A TUMOR, and I have seen them apparently disappointed when told that they did not have one.

STRUCTURE. FIBRO-MYOMATA are composed of the same elements as the uterine wall, namely, muscle fiber, connective tissue and fibroid tissue. The proportion varies, but in most cases the fibrous tissue predominates. The tumor feels hard to the touch and has a glistening appearance on section. It is surrounded by a covering or capsule, thus admitting of the operation called ENUCLEATION. The number of blood vessels penetrating its substance depends upon the amount of fibrous tissue present, since the greater amount of fibrous tissue present the fewer vessels and the less marked the menstrual disturbances.

If the muscle fibers predominate, the tumor becomes vascular and grows rapidly. The structures immediately around the tumor are very vascular and sometimes the engorged vessels can be felt through the abdominal wall. NERVES have been traced into the substance of the tumor, but there seems to be no sensation in the tumors except where they are covered with a mucous membrane.

VARIETIES. THREE VARIETIES of fibroid tumors have been

recognized—SUBMUCOUS or polypoid, INTERSTITIAL or INTRAMURAL, and SUBPERITONEAL. At first they are intramural, that is, located in the uterine wall, but as they develop they usually ap-

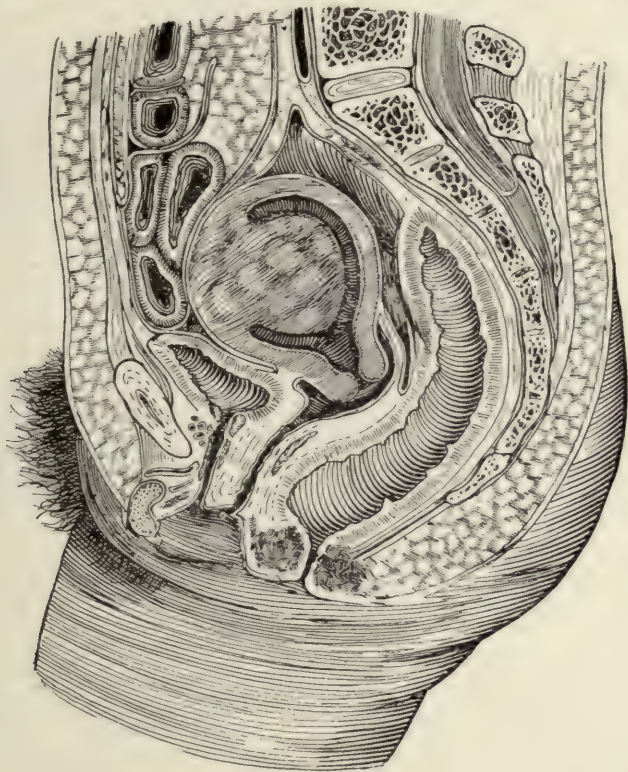


FIG. 97.—Submucous fibroid tumor of uterus.

proach one of the two free surfaces, thus producing the other two forms.

Submucous fibroids are the most important clinically. On account of their position, nature regards them as foreign bodies and tries to expel them, especially during menstruation by uterine

contraction. This simulates labor and causes the most excruciating pain, especially if the tumor becomes pedunculated. They lie usually beneath the mucous membrane, and as they are enlarged, project into the uterine cavity. When they hang free they are called fibrous polypi. The uterine contractions excited by their presence, leads in some cases, to pedunculation of

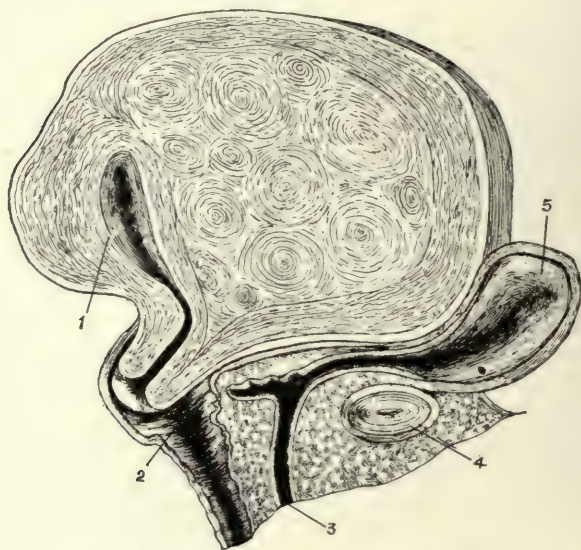


FIG. 98.—Intramural fibroid tumor of uterus.

(1) Uterine cavity. (2) Vagina. (3) Urethra. (4) Symphysis. (5) Bladder.

the tumor or even its expulsion from the uterine cavity. I have record of numerous cases in which the osteopathic treatment, by exciting uterine contraction, produced expulsion of the tumors belonging to this class. Again the hemorrhage is most marked in this kind of fibroid tumor on account of the congestion of the mucous membrane.

The **intramural** or **interstitial** form remains in the substance

of the uterine wall and does not become pedunculated. This is the form in which the greatest number is found.

The **subperitoneal** form grows outward and upward into the peritoneal cavity. It usually has a pedicle and upon the length

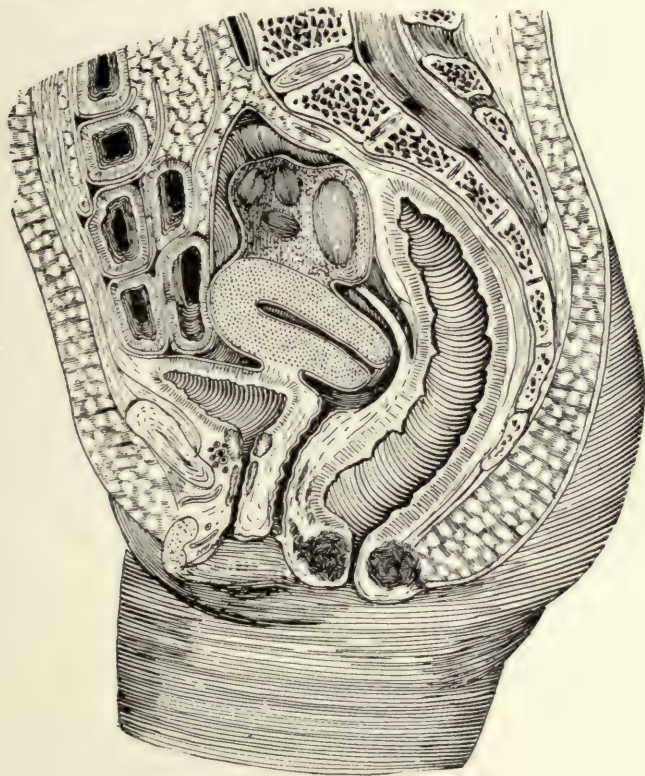


FIG. 99 —Superitoneal form of fibroid tumor on posterior wall.

of the pedicle depends the mobility of the tumor. It may ascend and carry the uterus with it, thus producing elongation of the uterine cavity, or it may have a long pedicle, thus allowing it to fall down from the abdominal into the pelvic cavity, and produce

pressure symptoms. Sometimes the pedicle becomes TWISTED, this producing a disturbance of the circulation to the tumor. If this occurs gradually, nutrition will be shut off and cessation of growth follow, but if it occurs suddenly, gangrene of the tumor may set in and result in a fatal peritonitis. This form can be distinctly felt and clearly outlined through the abdominal wall, after it has reached the size of an apple.

CAUSES. The **cause** of FIBROID tumors depends upon disturbed circulation which results in a deposit of material by the blood, from which new formations are produced. They are developed during the fruitful age of the woman. From this we would reason that their formation is related in some way to the DEVELOPMENT and ACTIVITY of the SEXUAL APPARATUS. They are most COMMONLY FOUND IN THE STERILE, whether as a cause or result I do not know. COITUS, MASTURBATION, and UNGRATIFIED SEXUAL desire are INDUCIVE to uterine and ovarian congestion. It has been asserted that if the uterine muscle fibers are denied the opportunity of PHYSIOLOGICAL HYPERTROPHY, which comes with pregnancy, they are prone to become pathologically enlarged from new formations in the musculo-fibrous tissue in consequence of the various stimuli mentioned above.

The REPEATED CONGESTION of the uterus coincident with menstruation without any period of rest, is a very probable cause. Each organ must have its period of rest, and if this engorgement of the uterus is not relieved by a physiological process, such as pregnancy, it will predispose to deposits and new formations. The function of the uterus is to provide a place for gestation and to furnish nourishment for the embryo from conception to end of term, and if this function is interfered with, disease especially of a tumorous nature is very likely to result. Sexual activity and irritation accompanied by the use of means to prevent conception,

are certainly important causes. It has been noted by the author and others that in TYPICAL CASES OF FIBROID tumors there was an INTENSE DESIRE UPON THE PART OF THE WOMAN FOR CHILDREN. This is true of the unmarried nullipara, as well as the married. This condition leads to repeated pelvic engorgements which are necessary in the production of tumors.

In looking over the record of cases that I have treated, I find that in most cases there was a subluxated innominate, or a **rigid spinal column in the lumbar region**, or both of these conditions were present. If the symphysis is carefully examined, tenderness and irregularities will be discovered, which are indicative of an innominate lesion. THE VASO-MOTOR CENTERS controlling the uterine circulation are in the LUMBAR SPINAL CORD and a rigid spine, or a posterior curvature occurring in this region, will affect these centers. This keeps up a constant irritation of the uterus, which, like the bruise of the bark of a cherry tree, terminates in an exudate or deposit. The blood supply is deranged. Blood that is formed for another part of the body is possibly switched off and its contents deposited in the vascular uterus. Each part of the body has blood formed especially for it, and it seems reasonable to me that if blood carrying food that was not intended for the uterus, should get into the uterus, its load would be deposited after repeated attempts to escape, regardless of the so-called SELECTIVE FUNCTION which each tissue is supposed to have. If the patient first has these bony lesions, then the causes above mentioned may the more readily act. If the first of the above mentioned causes were true, why does not every sterile woman between the age of thirty and forty-five, have a fibroid tumor? I KNOW FROM EXPERIENCE that THESE LESIONS ARE THE MOST IMPORTANT AS CAUSATIVE FACTORS, because I have cured cases by correcting these lesions.

Another explanation lies in the fact as stated above, that the CENTERS for the TONE and NUTRITION OF THE UTERINE MUSCLE FIBERS ARE IN THE ANTERIOR HORNS OF THE GREY MATTER OF THE LUMBAR SPINAL CORD. If the cells in these horns are made to **act abnormally** there will be an effect in the parts supplied. A RIGID LUMBAR SPINE will affect the ACTIVITY of the CELLS by INTERFERING WITH THEIR NUTRITION. Myoma, reasoning from the above, would be the primary tumor formed. The rigidity of the lumbar spine results FROM OCCUPATION wherein the patient is on her feet a great deal.

The **discs** flatten and lose their elasticity. The VERTEBRAE are thereby approximated, which condition necessarily LESSENS the size of the intervertebral foramina. The STRUCTURES passing through these foramina would then be affected in some way.

A **displaced uterus** is frequently a forerunner of fibroid tumors. The formation of some of these tumors can be traced back to a fall or heavy lift, but this has particular reference to those of quick formation.

I sometimes compare their formation to an excrescence on an oak or an exudate on a cherry or peach tree. There must have existed some disturbance to the supply of nutrition to that part from some sort of injury. The circulation of the sap must have been disturbed in some way. So it is with a foreign growth on the uterus. It is a result of a disturbance to the circulation, an irritation somewhere, and this disturbance is in most cases the result of a BONY LESION in the above mentioned places, a uterine displacement or an injury to it from the improper use of a sound or other instrument.

GENERAL WEAKNESS, which implies local weakness, has been mentioned as a possible cause of fibroids. This, physicians have attempted to overcome by the administration of a diet composed largely of meats.

The "Old Doctor" has often remarked that it was very unusual for a FOUR FOOTED ANIMAL to have a fibroid tumor. After examining a great number of animals and not finding any indications of fibroids, he came to the conclusion that tumors were partly due to the POSITION OF THE ANIMAL. This position prevented enteroptosis or a packing of the pelvic cavity with intestines. In women, the UPRIGHT POSITION tends to produce enteroptosis. This is counteracted in part by the mesentery and the abdominal wall. The abdominal walls are weakened by the character of the dress, that is, its function is subserved by the tight dress, and when the function of a muscle is suspended, it atrophies. Thus it is in the case of the abdominal muscles, atrophy follows and then comes enteroptosis. This results in a PACKED and CONGESTED pelvis. A deposit must follow and finally a tumor forms. I BELIEVE THAT ENTEROPTOSIS EXISTS IN NINETY PER CENT. OF ALL CASES OF FIBROID TUMORS. Incidentally the remark might be made, that if the patient would walk on all fours for a period of time a cure, unless the disease had progressed too far, would follow.

SYMPTOMS. FIBROID TUMORS, like other pathological growths of the uterus, usually produce no symptoms until they are quite well developed. A great many people do not know that they have a tumor until told so by their physician, since if the tumor is small, there are very few noticeable symptoms. The most important is that of **hemorrhage**. This comes on gradually, instead of suddenly as in cancer of the uterus, at first, as an increase of the menstrual flow, which is called MENORRHAGIA. After a time this may amount to a flooding or there may be irregular hemorrhages or METRORRHAGIA. The SIZE of the tumor, unless it is too fibrous, increases just immediately before and during menstruation. The amount of increase in size is quite indicative

of the degree of menorrhagia. This hemorrhage does not come from the tumor, but from the thickened mucous membrane lining the uterine cavity. In some cases the loss of blood threatens the patient's life. The writer saw a case recently in which there had been flooding for over a week. The patient was ANEMIC, ears and lips colorless, pulse rapid and weak and there was a condition of almost complete syncope.

The HEMORRHAGE is not so marked in the subperitoneal form as in the other types of fibroid tumors, but there is usually some increase in amount of menstrual discharge. In the MUCOUS form, the hemorrhage is GREATEST and threatens the patient's life on account of loss of blood. LEUCORRHEA often appears in the inter-menstrual period on account of the pelvic congestion.

Pain is present in the form of a backache or dysmenorrhea. If it is a submucous form of tumor, the pain will resemble labor pain, since the uterus is contracting in its effort to expel the foreign body, which is, in this case, the tumor. The pain is brought on by the tumor becoming pedunculated, the pressure on the cervix exerted by it causes impulses to be generated which bring on the uterine contractions. It is very similar to labor. A BODY to be expelled, an OBSTRUCTION to overcome, and a FORCE with which to expel. The same mechanism is at work as in normal labor and the suffering is often a great deal worse.

The BACKACHE is found most often in the upper portion of the sacrum and lower lumbar region. The increased weight of the uterus causes a sensation of discomfort, which is described as a fullness or weight in the pelvis, or a "dragging down" sensation. This pressure on the nerves produces pains in the limbs, sometimes sharp or shooting, sometimes that of weight or pressure. Traction on the various ligaments produced by the increased weight of the tumor, causes the backache, which is almost unbearable in some cases.

Pressure on the bladder causes FREQUENT MICTURITION. Pressure on the neck of the BLADDER may produce symptoms of cystitis, indirectly caused by the retention of the urine. Pressure on the ADJACENT vessels produces HEMORRHOIDS and VARICOSE VEINS of the limbs. Pressure on the RECTUM, produces tenesmus, constipation, or a diarrhea if there is a congestion of the mucous membrane of the bowels. Pressure on the URETERS leads to kidney trouble, such as hydronephrosis or albuminuria. Pressure on the UTERUS results in displacement, this being in the direction of least resistance. STERILITY is usually present, sometimes as a cause, sometimes as a symptom. ABORTION may be induced by the presence of the tumor and labor at term seriously complicated, either as a result of the mechanical obstruction or post-partum hemorrhage.

PHYSICAL SIGNS. In the case of large tumors, no difficulty will present itself in making a correct diagnosis, since the results obtained by inspection, vaginal examination, abdominal palpation and conjoined manipulation will be so decided, that they will definitely settle the character of the case. **Inspection** will show enlargement of the abdomen; this not being symmetrical in a majority of cases. ABDOMINAL PALPATION in a typical case discloses a large, hard, solid mass, though in exceptional cases it may be soft. Sometimes this tumefaction may closely resemble pregnancy, but there will be the absence of the usual indications of pregnancy. In cases of pregnancy in which the abdomen is very much enlarged, QUICKENING and the FETAL HEART beat can be elicited, thus diagnosing the case. If irregular hard lumps are found it is a good diagnostic sign of fibroid tumors. In the vaginal examination the tumor, if on the ANTERIOR WALL, can be felt through the anterior fornix as a hard irregular mass. This enlargement is diagnosed from the fundus by locating the

fundus in some other part of the pelvis; also it is harder and is accompanied by menstrual disturbances such as menorrhagia. If the tumor is on the POSTERIOR wall it can be felt in the posterior fornix or be outlined by rectal examination. By using the bimanual method, the SIZE, LOCATION and density of the tumor can be learned. The uterine canal is elongated, which can be learned by the use of a sound. This is not to be recommended on account of the danger of bringing on an inflammation or hemorrhage. The external os is enlarged, sometimes patulous, and the cervix softened. In other cases the cervix is rim like, and the walls quite thin. The entire uterus is found prolapsed in the typical case, but in large tumors and unusual cases, there is ascent.

DIFFERENTIAL DIAGNOSIS. A very large fibroid tumor may be MISTAKEN FOR PREGNANCY. It can be DIAGNOSED from normal pregnancy by the ABSENCE OF THE USUAL INDICATIONS OF PREGNANCY. In extra-uterine forms of pregnancy the diagnosis is more difficult. The character of the enlargement, history, growth and symptoms must be considered. In both extra-uterine pregnancy and fibroids, there is hemorrhage and both form a mass about or near the uterus. In TUBAL GESTATION the tumor is quite SENSITIVE with colicky pains occurring at irregular intervals. Fibroids are not tender, and except in the submucous type, there are no colicky pains. When rupture of the sac in ectopic pregnancy takes place, there are intense lancinating pains and severe shock. In fibroids the pain is a pressure one, hence not lancinating, but constant and aching.

In normal pregnancy the enlargement at first is symmetrical, the os patulous and the cervix soft. Amenorrhea is present instead of menorrhagia, as in fibroids. In FIBROIDS the enlargement is frequently IRREGULAR, and os not necessarily patu-

lous unless there is a great deal of inflammation and the growth very slow. If there is any doubt as to whether the case is one of pregnancy or fibroid tumor, **wait**; a few months will tell. **AT LEAST AVOID RADICAL TREATMENT.** Mistakes in diagnosis have been made, are being made, and will be made as long as there are physicians and patients, **UNLESS CARE IS EXERCISED.**

The fibroid TUMOR is DIAGNOSED from a DISPLACEMENT OF THE UTERUS, such as a flexion, by its size, consistency, it being more dense, by its irregularity and by finding the fundus by the bimanual method. It is DIAGNOSED from CANCER by the AGE, it appearing before the menopause, absence of laceration, this being a common cause of cancer; absence of odor, a slower hemorrhage, it being sudden in cancer, absence of constitutional symptoms such as emaciation and the cancerous cachexia and the character of discharge, it being first of a watery, then of a purulent nature in cancer. Sometimes in an incarcerated polypus or one in which the pedicle has been suddenly twisted, there will be some of the symptoms of cancer, but can be diagnosed by locating the tumor and noting its size, shape and consistency.

An **impacted** bowel may be mistaken for a tumor, but this should not occur if the symptoms of an impaction are remembered and the shape, size and consistency of the tumor be noticed. A case of fibroid tumor was recently brought to the A. T. Still Infirmary which had been diagnosed as an impaction, and the patient had exhausted the supply of purgatives which had been prescribed by the regular physicians. The pressure of the tumor produced constipation and impaction, and the cause was overlooked on account of the symptoms.

A PARTIALLY INVERTED uterus may at first be diagnosed as a pedunculated fibroid, but the history, symptoms, absence of the fundus of the uterus in the pelvic cavity, felt as a round, not

as an indented body as ascertained by abdominal examination, will clear up the diagnosis. An ovarian or uterine cyst is recognized by the fluctuation, softness of the tumor, rapid growth and absence of arterial hemorrhage during menstruation.

PROGNOSIS. The **prognosis** as to a cure, depends upon the **LENGTH** of standing of the case, degree of **DENSITY** and **SIZE** of tumor, mode of onset, age of patient, and the lesions found. If the case is of short duration, and is **NOT OF A FIXED SIZE**, that is if it **GETS SOFTER** and **LARGER AT TIMES**, **PROGNOSIS IS FAVORABLE**. If it is a solid tumor of slow **GROWTH** the size of a croquet ball, the prognosis is unfavorable. If the onset is sudden, and tumor is of rapid growth and soft and the patient is near the menopause the prognosis is more favorable. If a marked lesion is found and the case of not too long standing, a cure is probable. I have taken cases in the early stages of the growth and have stopped the progress and in some cases have even cured them. If the patient is near the menopause the prognosis is favorable regardless of the character of the tumor since in a great many cases it undergoes spontaneous absorption at that time. If it occurs during gestation it grows very rapidly on account of the increased vascularity and in some cases it will undergo atrophy during involution of the uterus. They seldom end fatally but are very chronic, causing the patient to suffer, at least until the menopause is reached.

The prognosis, as to **RELIEVING THE SYMPTOMS**, is **FAVORABLE**. By osteopathic treatment the pressure symptoms, hemorrhage and the various aches can be lessened unless the case is a very unusual one.

TREATMENT. The question is often asked whether a fibroid tumor can be cured by osteopathic treatment. I will answer by giving results of some cases treated at the A. T. Still

Infirmary. Cases of short duration and tumors that were soft and not very large, HAVE EITHER BEEN CURED, or the PROGRESS of their GROWTH STOPPED in every case that I have seen in which the patient ALLOWED US AT LEAST SIX MONTHS TREATMENT. In cases in which there was a GREAT DEAL OF FIBROUS TISSUE, of LONG STANDING and necessarily very hard, and as large as the two fists, personally, I HAVE NOT SEEN ONE in which the tumor was absorbed, but in most cases the symptoms were wholly or partially relieved. Dr. C. E. Still, who has treated more cases of fibroid tumors than any other osteopathic physician, reports cures in many of the above described cases. He usually insists upon the patient remaining under his care FOR ONE YEAR before he consents to take the case and promise much. Very few cases respond readily, that is, few changes occur in a few months treatment and the patient often becomes discouraged at the end of that time and gives up the treatment, saying that osteopathy is a failure; whereas IF THEY HAD CONTINUED UNDER TREATMENT FOR A LONGER TIME SOME CHANGE FOR THE BETTER WOULD HAVE BEEN NOTED. Goodall says that "solid uterine fibroids of astony hardness of several pounds weight will occasionally disappear," and he cites forty cases in support of his statement.

Emmett also reports similar cases of spontaneous absorption. IF SUCH RESULTS OCCUR SPONTANEOUSLY, why will they not occur oftener and more rapidly under osteopathic treatment, which is one of adjustment, hence helpful to the natural forces. I firmly believe that in the cases in which there is a failure, the fault is usually with the physician, and that we lack the requisite skill in cases in which we fail. OSTEOPATHY, if properly applied, WILL CURE ANY case of tumor that is curable. In the CURATIVE treatment the BONY LESIONS that are found, are corrected. This is the fundamental and primary step. By

the correction of these lesions that disturb the circulation, the nutrition to the uterus is re-established and that of the tumor is shut off and soon absorption begins. It can be compared to the treatment of a goiter or an enlarged tonsil. The absorption follows the correction of the lesion unless there is too much fibrous tissue already formed, which is very slow of absorption. The question arises, is the absorption produced by increasing the arterial blood supply or lessening it? I think it is produced by restoring a normal circulation of blood to and from the organ. Since nature tends toward the normal, any little help that can be given, increases the POWER of nature to throw off foreign elements and restore the natural circulation to and around the part. As mentioned before, if this disturbing factor, the lesion, BE CORRECTED, nature, unless the process has gone too far, WILL CERTAINLY ASSERT HERSELF and restore the parts to their normal condition. In addition, the tumor should be loosened and softened by lifting, or pushing it out of the pelvis, in order to free the circulation. This can be done by working directly over the tumor through the abdomen or by the use of Dr. Still's wire repositor. By doing this every few days the tumor, after awhile, becomes softened, pressure on the blood vessels and other neighboring structures relieved, and absorption is increased.

I do not mean by this that the tumor should be massaged. On the other hand I think MASSAGE IS CONTRAINDICATED. The abdominal treatment should be confined to a LIFTING UP ONE, which tends to relieve the pressure and free the circulation. The local application of drugs will not do this, nor will the internal administration of same do any good.

The IDEAL way of treating fibroids according to the author's notion, based upon enteroptosis as the most important of the causes, is to PUT THE PATIENT TO BED AND KEEP HER THERE FOR

SEVERAL MONTHS, the length of time depending on the size and density of the tumor. The prone posture relieves pelvic congestion, which UNDOUBTEDLY IS THE IMPORTANT, IMMEDIATE OR exciting CAUSE of tumors. Coupling with the rest treatment, an ABDOMINAL ONE, directed to the RELIEVING OF THE IMPACTED pelvis and one directed at the correction of the spinal lesions, a cure would seem more probable than under the ordinary circumstances.

Since the above treatment in the average case is out of the question, the WEARING OF A SUPPORT is to be advised, if the tumor is very large and heavy. "The Old Doctor" has devised a **belt** so arranged that if properly applied, the enteroptosis can be considerably relieved, thus improving pelvic circulation.

In cases OF EXTREME BACKACHE accompanying the tumor, PRESSURE over the PERINEUM with the palm of the hand, will temporarily relieve the pain. The patient should be kept from standing, or walking very much, since this increases the pressure or tension, thus making the condition worse. EVERYTHING THAT PRODUCES PELVIC CONGESTION SHOULD BE AVOIDED if possible to do so. Constipation, coitus, tight clothing, standing on the feet for several consecutive hours, walking or vigorously using the limbs in any way, such as running a sewing machine, all tend to exaggerate the already existing pelvic congestion. Especially at the menstrual period should the above mentioned things be avoided, and if possible keep the patient in a reclining posture. The knee-chest position should be assumed quite often, since this relieves in part at least, the congestion of the pelvic viscera.

In cases of menorrhagia in which the flow is arterial in character, the patient should be put to bed with the foot of the bed elevated, and treatment given to contract the uterus. This

is ordinarily accomplished by strong stimulation over the lower lumbar region and clitoris. Hot injections, ice packs or astringent solutions of sulphate of iron, alum or witch hazel, can be introduced directly into the uterine cavity, when the other methods fail. On account of its action on the smaller blood vessels their use seldom fails to stop or check the hemorrhage. The custom of packing the vagina is not very successful, it only results in preventing external hemorrhage while often the internal, still continues.

OPERATIONS. About the first thing that a surgeon advises in the case of a fibroid tumor, is an **operation**, and I think many lives have been sacrificed on account of a TOO FREE USE of the knife. I know of a great many cases in which hysterectomy was performed by eminent surgeons for a very small fibroid that was causing very little inconvenience. In a large per cent. of these cases the operations were successful, but the patient died. WHY RISK A PATIENT'S LIFE BY OPERATIONS WHEN THE SYMPTOMS ARE NOT SEVERE NOR POINT TO A FATAL TERMINATION?

The osteopath believes in surgery; it is a distinct separate science, but it should be a last resort after other methods have failed. Operations for the removal of fibroid tumors are recommended if the case can not be cured by osteopathic treatment, after a fair trial has been given. If the symptoms are severe enough and cause the patient constant pain, or if the patient is not near the menopause an operation is usually advisable. They are not advised if the tumor is small, and the symptoms mild, or if the patient is near the menopause, for in the majority of cases the growth will stop or the tumor will undergo atrophy at that time. For the different kinds of operations, and the methods used, a work on surgical gynecology should be consulted.

Curettage is sometimes performed by surgeons in cases of the submucous form of fibroid tumors, by means of the sharp curette as shown in Fig. 100. In this way the lining membrane of



FIG. 100.—The sharp uterine curette.

the uterus with a part of the tumors are removed. **THIS SHOULD NOT BE RESORTED** to until osteopathic treatment has failed, on account of the hemorrhage, danger of infection, and on account of the small amount of relief that usually follows the operation.

In other types of fibroids, although marked hemorrhage exists, curettage is of no value. A great many cases of submucous fibroids have been reported me as cured by the ordinary osteopathic treatment.

The use of **ELECTRICITY** is advised by some. Hirst says that he was appointed by the Philadelphia County Medical Society, as one of a committee of three “to investigate this form of treatment for fibroids.” He says “In three years time not a single case was presented of a tumor reduced in size by electrical treatment.” If beneficial at all it is only palliative; such a treatment does not remove causes. A **PERVERTED CONDITION** of the **STRUCTURES** of a part of the body exists, which must be corrected before a cure is completed.

POLYPI. A **polypus** is a pedunculated tumor attached to a mucous membrane. Those found in the uterus are of the mucous or fibroid variety, the latter being the more common. The **FIBROUS POLYPI** spring from the muscular wall of the uterus, most commonly from the body since that is the usual seat of fibroid tumors. They are similar to fibroid tumors as to consistency, appearance and structure; in fact they are fibroid tu-

mors with a pedicle. In size they vary from that of the end of the finger to that of a goose egg or even larger. As they enlarge the uterine cavity is dilated and the pressure exerted on the cervix sets up uterine contractions which, in a great many cases cause their expulsion. They are sparingly vascular but are congested and enlarged during menstruation. This enlargement increases the uterine contraction and is a favorable

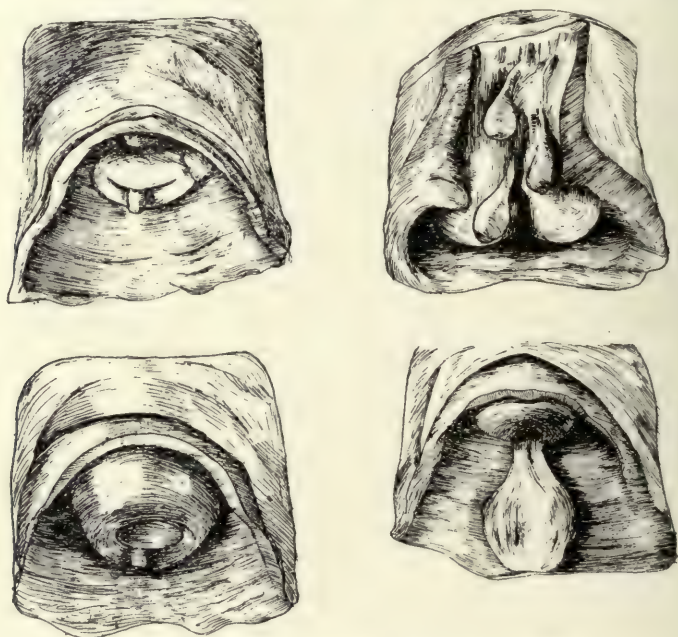


FIG. 101.—Different forms of uterine polypi, with the vagina and part of the cervix removed.

time for their expulsion on account of the dilated condition of the os uteri. After it has been expelled from the uterus, it still retains connection with the uterus by a long pedicle.

A mucous polypus is soft and pulpy and rarely reaches a

size larger than that of an almond. They are developed from the mucous membrane lining the cervix and usually appear in groups. They are extremely vascular and bleed readily on irritation.

SYMPTOMS. **Hemorrhages** are the first symptoms on account of the location of the tumor, it being on or near the mucous membrane. It like hemorrhage from fibroid tumors, begins as a menorrhagia, but afterward it becomes irregular and assumes the form of metrorrhagia. It comes from the congested mucous membrane and from the polypus itself.

Leucorrhœa is present as a result of the congestion of the endometrium. **Dysmenorrhœa** is very marked in cases in which the polypi cause pressure on the cervix. It is similar to, or even worse in some cases, than parturition. In other cases the presence of a polypus has caused various reflex symptoms of pregnancy, such as pigmentation of the breast and morning sickness. **STERILITY** is caused partly by the obstruction produced by the polypus and partly by the diseased condition of the endometrium which accompanies these cases; this not permitting of a secure attachment of the ovum to the uterine wall.

DIAGNOSIS. If the external os is so dilated that the tumor protrudes into the vagina, it can be recognized by the finger on vaginal examination or by inspection, a speculum being used. Then by encircling the cervix with the finger and examining the body through the fornices the pedicle, and the size of the tumor can be readily ascertained. By the use of a speculum, the tumor will appear of a bright color, which contrasts with the dark red color of the cervical mucous membrane. Sometimes it is advisable to introduce the finger directly into the uterus, thus exploring the uterine cavity, the polypus then can be plainly felt, making the diagnosis certain.

The polypus may be mistaken for a partial INVERSION especially if very much hemorrhage is present. The presence of the fundus in the pelvic cavity as ascertained by bimanual palpation, the slowness of the onset, the consistency of the tumor, it being harder, and the shape and appearance of the polypus are sufficient to diagnose a polypus from an inversion of the uterus.

The **prognosis** as to danger to life, depends upon the amount, and character of the hemorrhage. On account of its location a polypus may set up a great deal of hemorrhage which may not only produce anemia but fatal symptoms. The prognosis as to RELIEF without an operation depends upon the character of the polypus, and should be guarded. The operation for the removal of the polypus is simple and seldom terminates seriously if performed properly.

TREATMENT. The treatment of polypi depends upon their size, where they are attached, length of pedicle and amount of hemorrhage. If the tumor is small or of a submucous variety it can easily be cured by osteopathic methods. This is accomplished by directing more arterial blood to the uterus and by causing uterine contraction. These contractions will in most cases produce expulsion of the tumors. The TREATMENT to accomplish this, should be in the lower lumbar region, or at the sacro-iliac synchondroses, since the LESIONS affecting the uterine circulation are found at these points.

TORSION is sometimes used. The polypus is grasped either by the hands or forceps and twisted. Removal is advocated in most cases if the polypus is large, or if it is completely obstructing the os, and causing marked dysmenorrhea.

CANCER OF THE UTERUS. Cancer is a MALIGNANT DISEASE which attacks most frequently, the cervix uteri, mammary

glands, and face. It takes its name from the word meaning CRAB, on account of its tentacles radiating in every direction for quite a distance, sometimes six or eight inches, thus making it a very deeply seated disease. Carcinoma is the term commonly used for true cancer, although sarcoma and malignant adenoma are commonly called cancers. They undermine the constitution and in most cases rapidly lead to death, hence are classified as malignant. It is above all other diseases the one that a woman dreads, and rightly too, since its termination is so fatal and its course so painful and distressing. Even if extirpated, it tends to recur in a worse form and hastens the death of the patient.

VARIETIES. There are three common VARIETIES of cancer, viz: the MEDULLARY or ENCEPHALOID, the SCIRRHUS and the EPITHELIOMA. They differ in degree and in the elements of which they are composed. The **encephaloid** is the softest and it is the most fatal, that is, its progress is most rapid and produces death soonest. The **scirrhus** is hard on account of the preponderance of fibrous tissue, but is rarely found attacking the uterus. The **epithelioma** attacks the equamous epithelium of the cervix and causes a typical multiplication of the cells which invade the deeper tissues. Another classification is made according to the part of the uterus affected, into cancer of the vaginal portion, cancer of the cervix and cancer of the body of the uterus.

CAUSES. The **causes** of cancer are not very well known although certain constant factors are found accompanying the disease. **HEREDITY** has something to do with causing cancer, but unless acting in conjunction with other causes it is not sufficient of itself to set up a cancerous process. It will act as a predisposing cause, that is, it may weaken the pelvic organs and

then the exciting cause can the more easily and readily act.

AGE has considerable influence in the production of the disease. It occurs most frequently between the ages of forty and sixty, it seldom occurring before the menopause. At this age the vital powers are lessened, this favoring the attack. Anything which tends to lower the vitality increases the liability to the disease. REPEATED pregnancies are important causes, cancer being most frequently found in multipara who have borne at least five children, judging from the statistics on the subject. LACERATION of the cervix is the most important of the exciting causes, and I doubt if cases of cancer of the cervix are found without being preceded by a bruise or a laceration. This causes a constant irritation, a congestion and a weakening, followed by a lowering of the vitality of the cervix. It is similar to an epithelioma of the lip which is caused by a jagged tooth or the proverbial Irishman's pipe.

Cancer of the breast commonly arises in a similar way. First, a BRUISE, a local swelling, patient getting scared and then irritates the part by frequent manipulation, the surgeon's knife and then the formation of the cancer proper.

The CERVIX bears the brunt of coition and parturition. It is also bruised by the use of instruments introduced into the uterine cavity. If the predisposition is there, whether it be heredity or otherwise, the irritation resulting from the bruising in some cases results in the cancerous formation. I should regard cancers as caused by a disturbance of the LYMPHATIC and VENOUS circulation, but principally by a disturbance of the lymphatic. IT IS THE RESULT OF AN INJURY OF THE LYMPHATICS, and from this results the watery discharge. The disturbance to the blood supply is shown by the fungus-like appearance of the new growth, and the raw and angry appearance of the

cervix. This vascular disturbance is produced by the local irritation which had followed the laceration, or else it is due to a lesion affecting the vaso-motor centers of the cervix.

The LOCAL INJURY is not sufficient to cause the disease, or else every woman who has been lacerated or had the cervix bruised would have a cancer. There must be something else in addition, and the bony lesions impinging on the nervous connection with the uterus, is to me a very plausible cause. It is the more plausible WHEN CASES ARE TAKEN and CURED, which have been diagnosed as cancers, by correcting these lesions. In these cases the pelvic circulation was improved and the symptoms either abated or in some cases, entirely disappeared. After all, the cause of cancer is a mystery to physicians, there being various THEORIES, some of which attribute it to various imaginary micro-organisms, but no proven theory as yet has been found. To the osteopath, the disturbances of the lymphatic and venous circulation are the most important causes, and all his efforts should be directed to restore the normal flow of lymph and blood to and from the part.

SYMPTOMS. The EARLY SYMPTOMS are few and mild, not prompting the patient to seek the advice of a physician. This is one reason why it is so hard to cure, since it is rare to get a case in the early stages. At first the symptoms are local but soon begin to affect the constitution and undermine the general health.

Hemorrhage is one of the first local symptoms noticed. It in patients who have not reached or passed the menopause, like hemorrhage found in fibroid tumors, appears first as a menorrhagia. The patient on account of her age, she being at or near the menopause, usually attributes this to the change of life, thinking it to be one of the attendant symptoms. She finally

consults a physician, if it becomes too profuse and a well developed cancer is frequently found. In other cases the hemorrhages comes on irregularly and independent of the menstrual period. This comes from rupture of the dilated vessels and from an extension of the ulcerative process by which the blood vessels are eroded. It may appear suddenly after an exertion, as straining at stool or after coition.

With the progress of the disease, the HEMORRHAGE increases, it coming on in gushes and in some cases threatening the patient's life. Sometimes the patient tells you that THE MENSTRUAL FLOW NEVER ENTIRELY CEASES. This is an important point if found in a patient which is in the change of life, or which has just passed the menopause. Since cancer appears most frequently just after the menopause, any unusual hemorrhage should be properly examined as to its cause and source, since THE EARLIER THE DISEASE IS RECOGNIZED the greater the probability of a cure.

The DISCHARGE of carcinoma is of a watery nature and of a very FETID ODOR after ulceration has set in. I have examined patients in the early stages of the disease by means of a speculum, in which drops of water could be seen to collect on the cervix. The amount varies, but usually a drop is secreted every few minutes, so that after awhile there is quite a marked watery discharge. This is a symptom which is seldom found in other uterine diseases and is regarded as one of the important indications of cancer. There is no odor connected with the discharge in the early stages, which discharge is most frequently found accompanying the papillary epithelioma or the so-called "CAULIFLOWER" EXCRESCENCE. After there is ulceration the discharge becomes more offensive and increases in amount as the disintegration becomes more marked. The odor at this stage is VERY

NAUSEATING, markedly penetrating and clings to the examining finger for sometime, regardless of the efforts to remove it. The discharge is called CARCINOMATA ICHOR or "CANCER JUICE."

Pain is not an important symptom in the early stages of cancer, but in the later stages BECOMES VERY CONSTANT. After ulceration begins, sharp lancinating pains are felt in the pelvic region and sometimes shooting through to the back and reflected down the limbs. Sometimes it is a dull gnawing pain which is located in the small of the back or deep down in the pelvis. Occasionally this pain is reflected to the mammary glands, setting up a reflex functional disturbance of the glands. Local peritonitis, which accompanies nearly all those cancerous conditions of the uterus, is also productive of pain which is localized. The adhesions which are present, prevent the diffuse form of peritonitis in most cases.

The disease may extend to the neighboring organs, producing ulceration or other disturbance in them. The bladder becomes irritable, frequent micturition is present, and in some cases cystitis, and painful urination. The kidneys on account of the pressure on, or the extension to them of the disease from the uterus, are frequently affected. There may be hydronephrosis, uremia or organic disturbances of the kidney.

CONSTIPATION is present on account of the PAIN associated with defecation, DRYNESS of the feces resulting from the watery discharge, and WEAKNESS of the expulsive forces on account of the extension of the disease to the rectum. Diarrhea follows in some cases in which the rectum is irritated by the invasion of the cancer. The lymphatic glands in the lumbar region are enlarged and tender, and care should be exercised in treating the abdomen lest there be bruising or injury of these glands.

GENERAL SYMPTOMS. In addition to the local symptoms

mentioned, there are CERTAIN GENERAL symptoms which are secondary to the local trouble. The most marked are: EMACIATION and GENERAL DEBILITY. In the early stages the patient may be apparently healthy, but after there is much ulceration, the skin becomes anemic and of a **straw color**; there is PROGRESSIVE LOSS OF FLESH and the patient has a CAREWORN APPEARANCE. These facial symptoms are called CANCEROUS CACHEXIA or cancerous facies. The APPETITE is deranged and there is anorexia, nausea and sometimes vomiting. There is sleeplessness, anxiety, anemia and a general loss of energy.

PHYSICAL SIGNS. In making a local examination it is well to protect the finger by coating it over with glycerine. This lessens the danger of infection and assists in the removal of the fetid odor which clings to the finger.

In a typical case, the inside of the cervix is soft and FRIABLE, while the rim of the cervix is hard. The mucous membrane is found to be partially inverted, which gives it a rough or CAULIFLOWER appearance. There is proneness to hemorrhage on the least irritation by the examining finger, and particles of the GROWTH CAN BE READILY BROKEN off with the finger nail. The rough irregular mass is felt and with the speculum, the cauliflower fundus-like bleeding tumor can be seen. Particles are frequently sloughed off and discharged PER VAGINA, that is, if it is friable.

The microscopic examination reveals a fibrous stroma with alveoli which contain irregular cells of an epithelial type. In cases of advanced standing in which the vaginal examination is too painful and productive of hemorrhage, a rectal examination can be made. The uterus is felt to be fixed and the cancerous area outlined. A speculum should be used in most cases in which cancer is suspected, since INSPECTION IS THE best method by which to diagnose the disease.

DIFFERENTIAL DIAGNOSIS. The diagnosis of cancer is sometimes very hard as it is quite often mistaken for other diseases, or rather it is the reverse, that is, other diseases are MORE FREQUENTLY MISTAKEN FOR CANCER. Many cases that come to the A. T. Still Infirmary that had been diagnosed as cancers, turn out to be something else, such as a simple tumor, laceration or ulceration.

It is diagnosed from fibroid tumors by the HEMORRHAGE; its amount and onset. In fibroid tumors it is gradual in its onset; not so constant nor profuse except in some cases of the submucous variety. In a fibroid there is ABSENCE of a fungus-like mass, of a fetid odor, of FRIABILITY, and the disease appears before the age of forty-five. There is absence of constitutional symptoms and it runs a much more chronic course than in cancer. The enlargement is different as to size, location and appearance. Fibroid tumors are usually located on the fundus, develop slowly and produce enlargement of the abdomen, while cancers are found on the cervix, develop rapidly and produce no enlargement of the abdomen. A polypus, in which there has been sudden torsion of the pedicle, may be mistaken for a cancer on account of the discharge, odor and the hemorrhage. The other symptoms of cancer are absent. On examination of the cervix no growth is found, but on examination of the uterine cavity the tumor can be outlined.

An EROSION or ulceration of the cervix is most frequently mistaken for cancer. Consider the odor of the discharge, length of standing, constitutional symptoms, and amount of pelvic disturbances. On examination of the ulcer it is not like a cauliflower in appearance, not friable and is localized and yellowish in color, while cancer is red.

A LACERATION that has not healed, may give rise to symp-

toms of cancer, but from history, absence of characteristic cancer symptoms and locating the rupture of the cervical wall by the examining finger and by use of the speculum, it can be easily differentiated from cancer. In laceration, the splits in the cervix radiate from within outward and are regular, but in cancer the fissures are irregular, sometimes running crosswise of the cervix.

To SUMMARIZE the diagnostic symptoms of a cancer, note the RAPID PROGRESS of the disease, AGE of patient, she being above forty years of age, evidences of HEREDITY, presence of the characteristic symptoms and SIGNS OF MALIGNANCY such as pain, hemorrhage, fetid discharge, pelvic and reflected pains, FIXATION of the body of the uterus, INVOLVEMENT of adjacent parts, tendency to resist treatment and to recur after removal, and the CACHECTIC appearance of the patient. The physical signs that are found by examination with the finger and speculum, evidences of metastasis and growths elsewhere, and the microscopical appearance of portions of the cancerous growth make the diagnosis sure.

PROGNOSIS. The **prognosis** in cases of true cancer is very unfavorable, both as to cure and relief. In cases of supposed cancer it is favorable. I have seen cases or conditions that were diagnosed as cancer which were cured, and on this account, if the case is taken in the very early stages, there is a chance of it not being a cancer and can be eventually cured. Consider this in making a prognosis since you should be very guarded as to the outcome of the disease. Never pronounce a case as one of cancer until you are sure of your diagnosis, for the patient will likely get worse from the very thoughts of having the dreaded disease.

If it is one of TRUE CANCER, its course is rapid and death usually results within two years, sometimes a great deal sooner, especially in the encephaloid variety. Under osteopathic treatment a great many cases of SUPPOSED CANCER have been cured,

but I have never seen a case of a truly well developed cancer cured. In the later stages the pain and suffering can be markedly relieved, and on this account if on no other, the treatment is a wonderful advancement on the usual methods.

MODES OF DEATH. The patient may die from hemorrhage, but this is rare. CANCER USUALLY KILLS BY GRADUAL EMACIATION AND MALNUTRITION. There exists DISINTEGRATION OF THE RED BLOOD CORPUSCLES which lowers the vitality of the blood and produces the hematogenous form of jaundice. Complications such as peritonitis, bowel troubles, emboli lodging in the various parts of the body, causing secondary cancerous formations, all help to hasten the fatal end.

TREATMENT. The **surgical treatment** is, removal of the cancerous mass JUST AS SOON AS POSSIBLE. If in early stages, unless it is entirely removed, the operation only hastens the progress of the disease by lowering the vitality of the tissues. A great many cases of supposed cancer are helped to be developed into true cancer, and that very rapidly, by attempt at removal. If it were possible to completely remove the diseased portion, an operation might be successful, but on account of the tentacles and branches running out into the adjacent structures for several inches, it makes a complete removal almost impossible. If operated on in the later stages the cure is still more improbable and for these reasons an operation is contraindicated. The operation usually performed is one of HYSTERECTOMY, either vaginal or abdominal.

The **osteopathic** treatment is one directed to build up the quality of blood and to improve the circulation through the affected area. This is accomplished by treatment along the lumbar and sacral regions. I have a record of several cases that were diagnosed as cancer that were cured, in which the treat-

ment was almost entirely applied to the lumbar and sacral regions. In these there were the usual symptoms of cancer, the irregular growth, fetid odor, hemorrhage and pain.

If the discharge is irritating or of a very fetid odor, a carbolyzed douche should be given.

The **palliative treatment** consists of inhibition over the sensory nerves connected with the uterus. These can be reached through the lower lumbar and sacral regions. The pain and aching can be relieved, but only temporarily, since no permanent results follow that kind of treatment. Various cancer "pastes" and "sure cures" are advertised, but have very little effect on the course of the disease except that they so often make it worse.

Sarcoma of the uterus is a malignant tumor which differs from carcinoma in that it belongs to the connective tissue group and is of an embryonic type. It rarely, as compared with carcinoma, attacks the uterus. It may appear at any age but occurs most frequently at or immediately after the menopause. It, unlike cancer, attacks the fundus most frequently. The cause of the disease is unknown but is supposed to be similar to that producing cancer.

SYMPTOMS. The **symptoms** are very much like those produced by cancer. The hemorrhage, pain, especially after the disease is well developed, watery discharge and the cachexia or constitutional symptoms are like those of cancer. The **ROUND CELL** variety is more malignant than cancer, it producing death within a few months. It spreads by way of the blood vessels instead of the lymphatics as we find in cancer.

SOMETIMES A MYOMA may develop into a sarcoma, if the tumor has been bruised or injured to any great extent. FOR THIS REASON, CARE SHOULD BE TAKEN NOT TO BRUISE A TUMOR BY A TOO HARD TREATMENT OVER IT OR ELSE IT MAY BECOME MALIG-

NANT. In some cases the growth becomes rapid, pain severe and termination fatal in a very short time.

Its diagnosis as to malignancy is based upon the above symptoms, that is, fetid discharge, hemorrhage, pain, rapid progress, and constitutional symptoms. It can be diagnosed from cancer from its position, it being found in the connective tissue of the fundus, also by microscopic examination, since it is composed of connective tissue and cancer of epithelial cells.

The **treatment** is the same as for cancer. The prognosis is grave. It can be relieved temporarily but a complete cure is rare.

Sometimes there are cases of sloughing fibroid tumors that have been diagnosed as sarcomata, that were cured by the treatment, but true sarcoma is usually incurable. As in cancer be sure of your diagnosis before telling the patient, because it means all to the patient.

LACERATION OF THE CERVIX.

LACERATION OF THE CERVIX is a rupture of the cervix uteri in one or more places DURING CHILDBIRTH, or from FORCIBLE DILATATION of the os by means of an instrument. It is a very common condition and one that is productive of a great many symptoms both local and reflex. I have examined case after case of multiparous women in which the symptoms were those of nerve waste, loss of energy, nervousness, hysteria, and in most of them there was a laceration accompanied by subinvolution and endometritis.

It is caused in various ways, but the most important cause is MEDDLESOME MIDWIFERY and HASTILY CONDUCTED LABORS. The cervix is not fully prepared to dilate sufficiently to transmit the fetal head until the end of the normal period of gestation. If labor is induced or hurried, the cervix instead of stretching as it should, is forcibly torn, but if left to nature, a very few cases of laceration will occur. NATURE never intended that a woman should be lacerated at childbirth. The NATURAL process, if left alone, unless there is a precipitate delivery, or the parts are diseased, WILL CAUSE A NATURAL STRETCHING and dilatation, which prevents the tissues from tearing, but sometimes the accoucher thinks he can improve on nature but dismally fails, although the child is born sooner.

I think the USE OF ERGOT and QUININE or any other drug used to bring on uterine contractions, is to blame as much as any one thing. These drugs cause a contraction of the uterine muscles. The fundus being larger and stronger than the cervix contracts with GREATER force and forces the fetal head downward

against the resisting os. Instead of relaxing the muscle fibers of the cervix, it produces a contraction, but this CONTRACTION IS OVERCOME by the greater force from above, the contraction of the fundus, and as a result the os is forcibly dilated and consequently the constrictor fibers are torn. SUFFICIENT TIME IS NOT GIVEN for relaxation, since it takes quite a while in some cases, for those fibers to relax and, as a result, the fibers are ruptured.

IMPROPER TREATMENTS applied to the uterus WHILE IN THE NON-PREGNANT STATE, such as the use of the dilator, sound or the application of caustics or astringents, harden the cervical tissues. This retards or hinders dilatation and the tissues tend to tear rather than stretch.

A TOO RAPID DELIVERY has a similar effect, that is, time is not given for relaxation. HIGH FORCEPS delivery produces laceration in nearly every case. In case of LARGE FETAL head, a RIGID OS or any diseased condition of the cervix, there is a liability of laceration, even if precaution is taken. However, the greatest number of cases result from the physician being in TOO GREAT A HURRY. If the labor is slow, something is administered to bring on the labor pains, or if they are feeble he resorts to the use of forceps. In a case of a deformed pelvis sometimes it is impossible to prevent laceration, also in cases in which rapid delivery is necessary, such as placenta previa or breech delivery.

VARIETIES. A LACERATION usually takes place laterally. If only one side is torn it is called a unilateral laceration; if two sides, a bilateral; if at more than two places it is called a stellate laceration. The laceration varies from a slight tear which heals in a few days, to a complete laying open of the cervical portion of the uterus and extending to the roof of the vaginal vault. In some cases the cervix is literally slit into halves. This leaves a raw open wound which is irritable and gives rise to inflammatory conditions of the uterus and vagina.

SYMPTOMS. The **immediate symptoms** are those of ARTERIAL HEMORRHAGE. It may be very profuse; the quantity depending upon the depth of the tear and the number of vessels injured. The patient will complain of a burning sensation referred to the cervix, also local pain or reflex ache. The lochia usually continues longer than normal and the changes delayed.

The **secondary symptoms** are varied. If the patient is strong, it will not affect her for sometime, but if she is weak to begin with, the laceration very soon begins to weaken her more and set up reflex troubles.

The **local symptoms** are those of chronic inflammation. The cervix is congested, soft, and the os patulous. The disturbances to the circulation affect secretion as is evident by the leucorrheal discharge.

Involution of the uterus IS RETARDED, this producing a condition called SUBINVOLUTION. MENSTRUATION is irregular and the flow usually is increased in amount. The reflex and general symptoms are many, in fact all varieties are found in cases of bad laceration.

Neuralgia in different parts of the body is sometimes present. It very frequently assumes a form of INTERCOSTAL NEURALGIA or in some cases, NEURALGIA OF THE FIFTH CRANIAL NERVE. The cervix may be very sensitive if in the recent state, and the pain has been compared to that of an ache due to an exposed nerve. Nerve filaments may be caught in scar tissue which is formed, this causing reflected pains. BACKACHE in the lower lumbar and sacral regions is common. The limbs may ache or as many a patient describes it, feel heavy. This is probably due to the INCREASED WEIGHT of the uterus and inflammation of the nerve terminals in the uterus. The pelvic floor is weakened and there is a tendency to a backward and downward displacement of the heavy subinvoltuted uterus.

Reflex troubles are very marked. **HYSTERIA** in its worst form is found in cases of laceration of the cervix. It causes a disturbance of the nervous equilibrium on account of the constant loss of nerve force, and the patient becomes unable to control herself. There will be in some cases a choking sensation, PAIN in, and contraction of, one limb, flatulency, anuria, aphonia, and in many cases, the patient may entirely lose control of herself and give vent to her feelings by screaming or crying. This forms a **SAFETY VALVE** by which the excessive pressure is relieved. Again I have seen **CATALEPTIC** conditions, resulting from laceration, the patient remaining stiff for some hours. The constant loss of nerve force, causes a change in the disposition, the patient becoming irritable, and there is inability to concentrate her mind, and she has headaches, marked weakness and general debility. **DIGESTION AND ABSORPTION** are deranged, thus causing **MALNUTRITION**. If a patient presents herself suffering with the above symptoms and dates the trouble back to childbirth, laceration should at once be suspected.

PHYSICAL SIGNS. By means of the finger in vaginal examination, the indentation or fissuring of the cervix can be distinctly outlined. The os is usually patulous on account of the attending subinvolution.

The various Nabothian glands which open on the cervical mucous membrane become inflamed. The **DUCTS** become **FILLED** and **LITTLE RETENTION** cysts form, which are called **NABOTHIAN CYSTS** from the name of the glands. At first they are soft, of about the size of a small shot and when punctured discharge a gelatinous fluid. Afterwards they become hardened and embedded in the cervix. After this takes place, they resemble on palpation shot sunken in the substance of the cervix. They are often quite extensive and are diagnostic of a condition of cystic

degeneration of the cervix, which is the immediate result of the vascular changes incident to laceration of the cervix.

The **EVERTED CERVICAL MUCOSA** can be felt as a roughened surface. Various names have been applied to this condition of the roughening and eversion of the mucous membrane, such as erosion, granular erosion, excoriation and ulceration. Sometimes the lips are turned back so far, as in marked bilateral laceration, that the indentation can not be felt; only the roughened surface being recognized. To this has been given the name of **BELL-SHAPED CERVIX** on account of the lower part of the cervix being wider than the upper part. In certain cases the cervical endometrium is partially everted. This is found most frequently on the anterior lip and is the result of eversion from laceration. The **OS IS CRESCENT-SHAPED** and the shorter lip is thin.

If the case cannot be diagnosed definitely by digital examination a speculum should be introduced. By exposing the cervix by means of this instrument, the granular surfaces, the flattened cervix, the hypertrophy of the lips and the radiating fissures can be seen. If vulsella are now used to pull down or unroll the everted lips, the degree of the tear can be definitely ascertained.

It is diagnosed from an endometritis with slight protrusion of the endometrium, by the size of the cervix and the shape of the os, as determined by inspection. From cancer it is diagnosed by the absence of cancerous symptoms, and especially by the absence of friability and tendency to hemorrhage on slight irritation.

Prophylaxis. An osteopath **SHOULD NOT PERMIT LACERATION** to take place unless a deformity or marked abnormality exists. The best way to cure laceration is **TO PREVENT** it. This is done by **FIRST** dilating the os uteri by inhibition of the clitoris; sec-

OND, not hastening labor by artificial means; THIRD, by not using drugs or instruments; and FOURTH, by regulating and controlling the rapidity of the birth of the child.

If dilatation is rapid, it is not best to let the head be forced out of the uterus with a strong pain, but hold it back and deliver between pains or at the latter part of it. Between pains I RIM OUT THE OS with one or more fingers by which symmetrical dilatation can be secured. If one side of the cervix becomes very thin, it tends to tear when a pain forces the head against it. To avoid this force the head, when the pain is on, against the opposite side, in other words, guide the passing of the fetus, especially the head, out of the uterus, which, when carefully done will prevent laceration. In a normal labor no blood should be lost prior to the clots expelled immediately after the completion of the second stage and with the placenta. The LEAST AMOUNT OF BLOOD before the second stage is COMPLETED IS INDICATIVE OF A TEARING OF SOME part of the genital tract, usually the cervix. Out of nearly one thousand cases delivered by Dr. C. E. Still and myself, I know of but few cases in which we had complete care of the case, that there were lacerations, and they were abnormal cases, in that the pelvis was deformed, the uterus diseased, the fetus very large, or the fetus had to be delivered rapidly on account of the hemorrhage from a malposed placenta.

TREATMENT. The **treatment** should be directed to get union and healing of the irritated and inflamed edges. If there is in the parts, a chronic inflammation with degeneration, such as is the case in erosion or ulceration, it is hard to get the edges to unite; often the stitches making the condition worse. If the parts are not badly inflamed, that is if the inflammation is not chronic, union can be secured by an operation. This operation is called trachelorrhaphy. In chronic cases, the surfaces are

first denuded and then sutured. Rest of the part should follow the operation until complete union has taken place. Coition should be forbidden as long as there is any inflammation whatever, lest the condition be made worse by the congestion and irritation of the parts.

If the case is a **CHRONIC ONE**, and the inflammation has receded, an operation will do little if any good, unless there has been an excessive amount of fibrous material deposited. In these kind of cases a "V" shaped plug is usually removed, this lessening the hypertrophy and relieving the impingement on the nerve terminals. I have seen large lacerations which have spontaneously healed, which caused the patient no apparent trouble. I doubt that scar tissue in the cervix causes any trouble whatever.

Amputation of the cervix is resorted to in cases of deep stellate laceration. In some, the condition of the patient is bettered, in others made worse. The writer has seen several cases in which the operation had been performed, in which the condition was made a great deal worse as far as the uterus was concerned. **DYSMENORRHEA** of a very bad type often follows. **CYSTIC** degeneration with its softening of the uterus occurs in other cases. In one case treated by the writer the cramps came on as many as ten days before the flow and continued about two weeks at each period. They were so strong that the patient was exhausted, the menstrual period being a great deal more painful than parturition. This patient was entirely free from menstrual pain prior to the operation, but pain appeared at the first menstruation after. On local examination there was found two openings to the uterus; also a slight displacement. The pains could be lessened a great deal by instrumental dilatation immediately before the menstrual period.

It is BEST to REPAIR the tear in the cervix as soon as there is marked involution, and that is about the FIFTH OR SIXTH WEEK. This prevents secondary inflammation and guards against cancerous growths. Some advocate an immediate operation, but it is not indicated unless there is profuse hemorrhage. There is difficulty in recognizing the extent of the injury, the cervix being large and flabby, and thus it makes the operation uncertain unless the uterus has regained to a certain extent, its former size. The DANGERS OF INFECTION are increased by an operation at this time unless strict antiseptic precautions are taken. Such precautions are not always possible at private homes at which most cases occur.

The cases that the osteopath will meet with are chronic ones, since it is a very rare thing to have a laceration occur which is deep enough to cause either local or reflex effects, if handled by our osteopathic methods. If a patient were to come to you suffering with leucorrhea, menstrual disorders, pain, reflex and local, and an erosion and ulceration is found, the case should first be treated for awhile before an operation is advised even if one were needed. If the treatment does not relieve the inflammation then an operation should be advised, whereby the two edges can be approximated.

I have cured numbers of cases in which there were marked lacerations. This can be done if there is not too much inflammation or irritation to the parts, which prevents healing. The treatment used is one directed to CONTROL THE PELVIC CIRCULATION. Treatment applied over the lumbar and sacral regions, causes increased vaso-motor tonicity. Manipulation over the course of the abdominal and pelvic veins removes obstructions to the return flow of blood. By keeping the patient quiet, and continuing the treatment for few weeks, a great many of

the symptoms can be relieved. Stimulation of the nerve centers of the uterus, located in the lower lumbar region, produces contraction of the uterine muscle fibers. This forces the venous blood out of the uterus and results in lessening the size of it. LESIONS along the lower lumbar and sacral regions sometimes prevent complete involution and increase the congestion and inflammation which attend laceration. By correcting these lesions, the congestion and inflammation are lessened, thereby increasing the probability of a cure without an operation. Although an operation is often indicated if the case is comparatively a recent one since it is a surgical condition, the treatment will very materially help the healing of the parts, and should be given. OSTEOPATHY IS CERTAINLY QUITE AN ADJUNCT TO SURGERY. If by the treatment the blood is kept circulating through the uterus it lessens the pain and SHORTENS the length of time of healing.

EROSION OF THE CERVIX.

Erosion of the Cervix is a circular, irregular, roughened patch surrounding the os, which is RAW in appearance. Sometimes there are granular patches with irregular outlines which extend beyond the limits of the os externum. The pavement epithelium has been partly or wholly destroyed and replaced by newly formed cells, which are columnar in shape. New gland tissue is formed which is secreting and resembles in structure the cervical mucous membrane. This leads to abnormal secretions such as leucorrhea.

The term ulceration has been applied to this condition, but erosion is a better term, since very rarely there are actual ulcerative changes. Ectropium or eversion of the mucous membrane, is a term used to describe the condition when there is laceration, but does not describe the secreting surface beyond the os externum.

CAUSES. In the young and the nulliparous woman, EXPOSURE during menstruation is a common cause. Imprudent exercise or over work at the menstrual period, produces a disturbance of the uterine circulation. If this is persisted in month after month, congestion or even inflammation will result. Let us examine one of those eroded surfaces. It shows vascular changes, for it is congested, and since papillae and granules of different size are formed over the diseased area. To produce this the circulation must be impaired, and in most cases this is a venous rather than an arterial disturbance. Since venous blood supports only the lower form of life, connective tissue and hypertrophied epithelium are in abundance.

The **causes** of this congestion in nullipara, in addition to ex-

posure during menstruation, are LESIONS deranging the nerve supply. If this collection of the blood in the mucous membrane lining the os becomes chronic, these erosive changes follow. Certain women are predisposed to chronic congestion of all the mucous membranes. The writer recently treated a case of membranous dysmenorrhea in which there was hemorrhage from nearly all the mucous membranes during the menstrual period. There was a small erosion of the cervix, and on this account the uterus had been curetted, with little or no benefit.

In MULTIPARA, childbirth is the most common cause, especially if a laceration has taken place. This condition excites congestion of the cervix and its lining membrane. There is a hypersecretion and an irritating discharge. This discharge is often strongly acid and irritating if it comes from the uterus. It ERODES the tissues, mucous membrane and integument with which it comes in contact, and the CERVIX ON INSPECTION RESEMBLES A RAW PIECE OF FLESH. The local congestion around the impaired area soon develops into a circumscribed inflammation. After it exists for awhile the characteristic roughened, granular surface appears. The inflammation may extend upward from a vaginitis, or downward from an endometritis. In such cases, if not of specific origin, a bony lesion or uterine displacement are the most important causes.

SYMPTOMS. The cervix being considered as a LARGE GLAND, the congestion produces a pathological secretion which is called **leucorrhea**. If there were an arterial congestion, there would be a hypersecretion, but it would be normal as to quality, but being a venous congestion the quality of the secretion is impaired and the quantity increased. The normal secretion is clear and viscid, resembling the white of an egg. If mucous corpuscles are present it is an opaque white; if there are pus corpuscles it

becomes yellowish; if blood is present it becomes red in color.

PAIN as in all inflammatory conditions of the uterus, is present, either localized or reflected to the back. It is increased on walking or in conditions in which there is movement. Menstrual disorders are present, principally menorrhagia and dysmenorrhea. On account of the inflamed condition of the endometrium and the character of the secretion, it being acid, sterility frequently exists.

PHYSICAL SIGNS. On vaginal examination the cervix is found to be **SOFT** and the **OS PATULOUS**. The eroded and roughened surfaces can usually be felt. By exposing the cervix with a speculum, the raw, eroded surface can be seen. Frequently an old laceration can be seen, which is the cause of the trouble. An erosion bleeds readily when touched with the finger or an instrument. Discharge can be seen exuding from the part, or if there is a co-existing endometritis it can be seen coming from the uterine cavity. It is diagnosed from cancer by lack of odor, absence of marked friability and the character of the hemorrhage. The **EROSION IS LOCALIZED** and does not produce constitutional changes.

TREATMENT. The **treatment** resolves itself into a building up of the general condition and relieving the congestion of the cervix. In nullipara it should be applied to the lesions found which interfere with the pelvic circulation. If the uterus is displaced, which is the case with a great many patients suffering with erosion, it should be corrected in order to relieve the venous congestion, otherwise local treatments will do very little good.

In **MULTIPARA**, the treatment should be similar, but in addition, the laceration, if any exists, should be repaired if it does not heal after the usual treatment is given. Local douches do very little good. They may relieve the condition temporarily,

but the after effect leaves them in a worse condition than when they began. Sometimes applications of tannin and glycerine are recommended, but they give only temporary relief. Bismuth is the best antiseptic to use if one is indicated. Others apply caustics to the eroded surface, but this seems to be rather a cruel way of treating such a condition. Deep work over the uterus, and the veins leading from it, with treatment applied to the back to increase the vaso-motor tonicity, is usually sufficient to at least relieve if not cure the erosion. The patient should be kept as quiet as possible and coition should be prohibited.

ULCERATION OF THE CERVIX.

ULCERATION OF THE CERVIX is occasionally met with. It is a condition of advanced erosion, that is, the blood has stagnated so long that ulcerative changes have set in. On examination with the speculum, the ulcerative process can be seen. Venereal diseases, especially syphilis, should be thought of since an ulcer is sometimes formed on the cervix as a result of the infection. The discharge in ulceration would be of a yellowish color, since pus from the ulcer is intermingled with it. In most cases there is a constitutional disease such as tuberculosis, which impairs the quality of the blood and prevents healing after laceration. The treatment should be similar to that of erosion, that is, the stagnated blood removed and fresh blood be put in its place. In addition, measures should be adopted to build up the general health by the proper kind of food and exercise. If the ulceration is persistent and does not yield to the ordinary treatment to the uterus, abdomen and spine, some antiseptic preparation should be used directly on the ulcer. Boracic acid or bismuth can be used advantageously.

INFLAMMATION OF THE UTERUS.

The Uterus is the seat of a great many inflammatory changes both acute and chronic. Various authors divide these inflammatory conditions into many divisions and subdivisions, such as acute and chronic metritis, both corporeal and cervical, acute and chronic endometritis, and endocervicitis. For our purpose the general division of inflammation of the uterus into metritis and endometritis is sufficient. This division is only arbitrary, since I doubt if there is ever a case of endometritis without it being complicated with inflammation of the substance of the uterus or metritis, or vice versa. Since both the endometrium and uterine walls are supplied by the same nerves, blood vessels and lymphatics, consequently the same lesions, or other disturbing elements, affect both. Also the endometrium is in intimate relation with the muscle fibers of the uterine walls.

First, let us consider what is the condition in inflammation of the uterus. It is an **ATTEMPT** or effort accompanied by redness, heat, swelling and pain on the part of the **ORGAN** to counteract, excrete or destroy certain poisonous or obnoxious elements. These poisonous elements either arise from within, or are introduced from without. If introduced from without, the poison at first stimulates for a short time the nerve terminals, but soon produces a weakening, or paresis, of the vaso-motor nerves, and the blood flow, both arterial and venous, is lessened in rapidity or even entirely stopped; in other words, **CONGESTION** or a stasis results. The blood then undergoes changes which are **PECULIAR TO INFLAMMATION**, accompanied by exudations and deposits, and changes in the tissues supplied by the blood vessels. Inflammation as a rule, most frequently attacks the endometrium, which then is called **endometritis**. It soon invades

the neighboring substance and becomes a **metritis**.

The poisonous elements that arise from within are the result of a local stagnation of blood. This stagnation results from **DISPLACEMENTS** of the uterus and bowels; **DISEASE** of the **ADNEXA**, or it follows **EXPOSURE** of the body at a time when the uterus is physiologically congested, as during the menstrual flow; also from the various **LESIONS** affecting the vaso-motor centers which have to do with controlling the amount of blood in the uterus. Sometimes there are constitutional diseases which are responsible for the condition, but this is rare in comparison with other causes which will be mentioned under the head of causes of inflammation of the uterus.

Pryor says "it is an accepted fact that pelvic disease in women is increasing. This is due to three causes: The undoubted spread of gonorrhea; the very general dislike to childbearing and the induction of abortion, and to unskilled intra-uterine treatment by physicians." The writer agrees to the above statement, and would add that the **UNSKILLED TREATMENT** of uterine diseases in general is a very important factor in the production and increase of pelvic diseases in women.

THE BLOOD SUPPLY of the uterus is very abundant. The **VEINS** are large and traverse the uterus in every direction. A **PECULIARITY** of the blood supply is the **DISPROPORTION** between the size of the arteries and veins, the latter being the larger. Mayrhofer says "When the vessels of the uterus are injected, the veins and arteries with different colored injection, one is struck by the great preponderance of veins over arteries." Their walls are very thin so that a very slight change of pressure readily affects the blood stream. The blood is collected by the uterine and ovarian veins and returned to the inferior vena cava, thence to the heart. The **UTERINE VEINS** accompany the arteries, that is,

their course at first lies between the layers of the broad ligaments, after which they empty into the internal iliac veins, thence the blood is carried by the inferior vena cava to the heart. The OVARIAN VEINS, like the arteries, are long and slender, hence the greater liability of compression. The left empties into the renal, while the right empties directly into the inferior vena cava.

Respiration affects the uterine blood pressure as well as the position of the uterus. This has been proven in different ways. By placing the finger against the cervix when the patient is straining as in coughing, the change in position and consistency can be readily noted. The analogous veins in the male, the spermatic plexus, increase in size when the intra-abdominal pressure is increased. The author has experimented on cases of varicocele. The distention of the veins could be markedly increased by having the patient hold his breath and straining as if at stool. The veins could also be enlarged by the patient lifting or, in fact, doing anything which caused an increase in the intra-abdominal pressure. I recently had a case in which the patient, a young lady, was groaning and breathing irregularly, that is, she was holding her breath as long as she could, then expelling it with a groan. By keeping the finger on the cervix it was ascertained that the pulsation of the blood vessels varied with the respiration. The movements of the uterus also varied, SUDDEN INSPIRATION DRAWING IT UPWARD, while holding the breath forced it DOWNWARD. By placing the patient in the genu-pectoral position and admitting air into the vagina and causing the patient to breathe irregularly and forcibly, the air was drawn in with inspiration and forced out with expiration, accompanied by the peculiar sound of escaping air. This goes to prove the effect on the position of the uterus in labored respiration and how easy it is to produce a congestion of it, which is a preliminary step to in-

flammation of the same. Congestion can be produced by vaso-motor disturbances. A lesion which inhibits and shuts off the nerve force intended for the blood vessels causes dilatation of these vessels.

PARTS INFLAMED. The **part** most **COMMONLY INFLAMED** is the endometrium. It is composed of lymphatics, blood vessels, nerves, glands and the ciliated columnar epithelium which lines the cavity of the uterus. The walls are also frequently inflamed, but usually secondarily to the inflammation of the lining. They are composed of a mucous layer, muscular layers and a peritoneal layer. The first is called the endometrium, the second the myometrium, and the peritoneal covering, the perimetrium. Between these different layers are connective tissue, glands, etc. These glands form a large part of the substance of the uterus. Inflammation of the substance of the uterus, which is called metritis, affects these glands, causing morbid secretions. Inflammation of the endometrium is called endometritis; of the perimetrium, perimetritis or local peritonitis.

VARIETIES OF INFLAMMATION. The **KIND** of inflammation is named from its intensity, rapidity or according to the part of the uterus affected. The inflammation may be acute or chronic simple, catarrhal or parenchymatous, this classification being called the pathological. The classification into metritis, cervicitis, endocervicitis, endometritis perimetritis, parametritis and peritonitis, is called the anatomical classification.

GENERAL CAUSES. The **GENERAL CAUSES** of inflammation are included in two general divisions. **FIRST**, traumatism, or where the poison is introduced from without; or **SECOND**, congestion, which is the result of obstruction or vaso-motor paresis. The first includes all **INJURIES** to the endometrium, cervix and uterine body whether from parturition, use of instruments or

drugs. SPECIFIC INFLAMMATION of venereal origin is also included under this head. The second includes misplacements, bony lesions, tumors, both of the uterus and the neighboring structures, subinvolution, exposure, etc.

ENDOMETRITIS.

The ENDOMETRIUM is not only a mucous membrane but is also a part of the great lymphatic system. This being true, certain of the general or systemic diseases affect it. In tuberculosis it becomes pale and anemic; in gout and malaria it congests, hence an increased menstrual flow. Its function then explains the frequency of the uterine type of leucorrhea.

PATHOLOGY. In considering the **pathology** of endometritis the component parts of the endometrium must be considered, and following this, the changes which each undergoes. The endometrium is composed of glands, arteries, veins, lymphatics, columnar and ciliated epithelium. The blood vessels are engorged and soon the entire endometrium, and even the walls of the uterus, becomes hyperemic. This is so marked in some cases that a slight hemorrhage takes place when the uterus is irritated, as in local examination or sexual intercourse. The epithelium, the cells of which being thickened and proliferated, becomes loosened, disintegrated and expelled with the leucorrheal discharge. The secretions, in typical cases, become muco-purulent; this being the result of glandular disturbances. The mucous membrane is often several times as thick as the normal and becomes spongy, soft and easily removed.

CAUSES. **Endometritis** is most easily produced by an instrumental intra-uterine treatment, the **SOUND** being the instrument most often used. If care is not taken the delicate mucosa lining the uterine cavity will be torn or injured by the pressure exerted in replacing a displaced uterus. **UTERINE DILATORS** or **tents**, that are sometimes used, are also liable to and usually do,

injure the tender endometrium. This leads to congestion, which is followed, in most instances, by some degree of inflammation. The uterine cavity is one that should not be irritated or permitted to be filled with air. This form of inflammation produced by the above is usually acute.

PESSARIES which have been worn for some time without removal, irritate and congest the vagina and cervix, and inflammation follows. SPECIFIC VAGINITIS or gonorrhea travels upward from the vagina and sets up an inflammation of the endometrium. Sometimes it travels up the Fallopian tubes into the ovaries and peritoneal cavity. This is a cause of constant ill health, chronic local peritonitis and sterility. Infection may come from other sources such as the use of unclean instruments or dirty hands. Certain drugs tend to produce inflammation of the uterus.

Peculiar conditions of the blood state tend to produce congestion of the mucous membrane. This not only affects the endometrium, but the various other mucous membranes of the body. This is often found in the exanthemata, also in hemophilia or bleeders disease.

EXPOSURE to cold or GETTING WET during the menstrual flow, is a common cause of endometritis. Mental anxiety or any sudden emotion which stops the menstrual flow frequently produces inflammation. I have seen a great many cases of inflammation of the uterus which started from over-work or exposure at the menstrual period. Such patients are tender over the lower part of the abdomen and have chronic menstrual disorders. This menstrual discharge, which should have been thrown off, collects in the uterine cavity on account of the contraction of the cervix which occludes the os. It is partly absorbed and continues to be a source of constant irritation and congestion.

PARTURITION, if accompanied by laceration or bruising of the cervix, is a cause of inflammation of the uterus, and especially of endometritis in multipara. The inflammation soon becomes chronic and is the cause of many complications.

If there are too frequent pregnancies or abortions the uterus will be found enlarged and inflamed. This is called subinvolution. The inflammation will not be confined to the endometrium but invades the walls. INDUCED ABORTION and frequent coitus are other causes which may first set up a congestion, then an inflammation of the lining membrane of the uterine cavity. In either case the os becomes and remains patulous.

Displacements produce inflammation by first exciting congestion. On account of the obstruction to the circulation produced by the twisting of the broad ligaments or by direct pressure on the vessels, the blood undergoes changes which result in the formation of toxic elements. If the displacement has become chronic, there is but little inflammation, but if it is an acute or recent one, there is usually acute inflammation, not only of the uterus and its lining but of the neighboring structures.

MEDICATED pencils introduced into the os, excite inflammation of the endometrium whenever used. Caustics and the various astringent applications, if used very much, have a similar effect on the uterus. They at first stimulate the vaso-motor nerves, but relaxation and dilatation soon follow after the first effects have worn off.

Passive congestion as the result of some of the above causes, or of a mechanical obstruction, is the most common forerunner and cause of chronic endometritis.

LESIONS. The most COMMON and PRONOUNCED BONY LESION is the backward slip of the innominate bones. Both bones,

or only one, may be slipped backward, thus producing a twist in the entire pelvis. This kind of lesion, more than any other, seems to affect the uterine circulation. The **sacrum** may be tilted, its most common displacement being a forward rotation of the upper part and a posterior displacement of the lower part. The **lumbar vertebrae** may be displaced, or a RIGID condition of that part of the spine may exist, or a posterior CURVE be found.

If due to exposure the muscles along the lower part of the spinal column are found to be very much contracted. This is frequently the beginning of the bony lesions. The tension exerted by a contracted muscle is considerably more than one would at first suppose. This finally results in a slight bony displacement, that is, the bone is slowly pulled out of line. When once it is out, it becomes in most cases a chronic condition, affecting the uterine circulation and probably causing a chronic form of metritis or endometritis.

To the osteopath THESE LESIONS are the most important of the causes of endometritis. With these bony lesions existing, exciting causes readily act. Without correcting these lesions permanent cures cannot be made, although temporary relief may be given. Cases of membranous dysmenorrhea, which is only one of the many forms of this inflammation, can be cured by osteopathic methods even after other methods have failed. This has been demonstrated a great many times in our own practice. In such cases a bony lesion was found, the subluxated innominate being the most common, and after correction the symptoms disappeared.

SYMPTOMS. The **symptoms** of an endometritis depend upon the degree of inflammation. The acute form is accompanied by the usual indication of inflammation, such as heat, redness, swelling, pain and perversion of function. The ABDOM-

MEN is tense, tender and in most cases tympanitic. The neighboring organs are affected, menstrual function is deranged, and an acute pain and tenderness exists in the pelvic region. There will be symptoms of peritonitis, especially in cases produced by exposure during the menstrual flow.

The MOST IMPORTANT SYMPTOM of chronic endometritis is PAINFUL MENSTRUATION. The uterus contracts to expel the menstrual flow. If the endometrium is raw and inflamed, and it is in endometritis, it is like clenching the hand when the palm is raw and eroded, both of which result in severe pain, and the greater the contraction the worse the pain.

Again, the IRRITATED ENDOMETRIUM is conducive to uterine contraction. The introduction of any instrument or anything into the uterine cavity produces contraction of the uterus, and especially so if the endometrium is in a state of irritation, the uterus responding to a lesser stimulus than it does when normal. On account of the above mentioned conditions any shock, exposure, injury or lesion will more readily cause uterine contraction and dysmenorrhea. This explains POST-MENSTRUAL and INTER-MENSTRUAL pain, that is, a lesion is present which, coupled with some exciting cause, results in increased peristalsis of the uterus.

The AMOUNT OF MENSTRUAL PAIN depends upon the degree of inflammation. If the blood has been retained in the uterus even for a short time, it becomes clotted and then the process of expulsion is similar to that of labor. In fact, if there is clotted blood discharged at the menstrual period it indicates inflammation of the endometrium and is one of the best symptoms of the same.

Nearly all uterine **pains** at the menstrual period, come from **inflammation** of the endometrium. FLEXION rarely produces dysmenorrhea unless accompanied by inflammation. REFLEX

troubles at that time are rare unless there is an endometritis.

MEMBRANOUS DYSMENORRHEA is a very striking symptom or example of endometritis. The entire lining of the cavity of the uterus is loosened and cast off *EN MASSE*, this loosening of the endometrium being the result of changes dependent on endometritis. The pain is due partly to the inflammation and partly to the presence of the membrane, both of which are likely to set up an extreme contraction of the uterus in its efforts to expel or overcome the foreign body or the irritation.

In GONORRHEAL ENDOMETRITIS, the onset is sudden, with fever, uterine cramps and general pelvic pain, soon followed by a discharge which rapidly becomes purulent. The inflammatory process soon extends to the Fallopian tubes, ovaries and pelvic peritoneum. The vulva and vagina show signs of inflammation. The MEATUS has a dark red appearance; the uterus is very tender and the gentlest manipulation causes marked pain. It enlarges and the connective tissues about it thicken.

The LYMPHATIC GLANDS increase in size and become very tender. The OVARIAN tenderness increases while the endometritis becomes less severe. A CHRONIC DISCHARGE is established, which increases in amount whenever uterine congestion is increased, as at the menstrual period. The discharge contains pus and is sometimes very irritating.

As a result of the congested mucous membrane, the SECRECTIONS become abnormal. Instead of the uterine secretion BEING WATERY in character it becomes whitish, MILKY or BLOOD tinged. In other cases it is purulent on account of its retention and accumulation in the uterine cavity. The discharge is frequently strongly acid in character and sets up a pruritus. BACK-ACHES and various other reflex aches are very common. Endometritis is the MOST COMMON CAUSE of reflex pains or aches.

The congested condition which accompanies the inflammation increases the weight of the uterus, thus producing pressure on some parts and traction on other parts. This congestion often leads to hemorrhage in the form of a menorrhagia, or even a metrorrhagia. The effects depend on the amount and quality of blood lost. Anemia, indigestion and general weakness most frequently follow.

The DISTURBANCE OF THE UTERINE CIRCULATION affects the PELVIC NERVOUS system. The VARIOUS REFLEXES are the result. The limbs are heavy and the small of the back weak. If a patient were to come to you suffering with a weak back, that is if she complained of an ache, or an acute pain, suspect an inflammation of the uterus, either an endometritis or a metritis, the former being the more common. This backache as mentioned above may be the result of a lesion, sexual excesses, laceration or displacement. The DEGREE and character of the pain in uterine displacements depend more on the **amount of inflammation**, that is endometritis and metritis, THAN ALL OTHER THINGS COMBINED. **A uterus free from inflammation** is in most cases, a **fairly normal one regardless of its position**, and if disease exists one should look elsewhere than in the uterus for the cause.

When the UTERUS or part of it is INFLAMED the digestive tract is usually weakened. Digestion is impaired and appetite lost. Frontal headaches are sometimes found which are reflex from the stomach. Sometimes nausea and vomiting exist, which may lead one to suspect pregnancy. I recently had a case of slight endometritis complicated by morning nausea and vomiting, which was mistaken for pregnancy. Local examination cleared up the diagnosis.

STERILITY is almost a constant symptom. The acid leucorrheal secretions from the uterus constrict and kill the sper-

matozoa. Sometimes impregnation does take place, but if it does the woman seldom carries to term. The endometrium being congested and inflamed furnishes an imperfect NIDUS for attachment of the impregnated ovum. In some cases the fetus is carried to term, but this is the exception to the rule. To make a resume, the symptoms are dysmenorrhea, leucorrhea, reflex aches, digestive disturbances, nervous changes such as hysteria and usually sterility.

PHYSICAL SIGNS. **Tenderness** is elicited on pressure over the lower part of the abdomen. This is one of the BEST OBJECTIVE indications of an inflamed uterus, whether metritis or endometritis. In such cases care should be taken not to mistake CYSTITIS, for an inflammation of the uterus.

On local examination the CERVIX is found to be LARGE AND SOFT, while the os is patulous. Sometimes the endometrium is everted and can be felt. On examination with the speculum, the inflamed surface can be seen if it involves the cervical endometrium or if the case is not one of too long standing. The cervical endometrium is raw looking, and the leucorrhœal discharges are seen emanating from the external os. The least movement of, or pressure on the uterus, produces pain. There is painful coition or dyspareunia if the inflammation is acute. If the sound is introduced it becomes tinged with blood. It excites pain, sometimes spasms, in which cases it should not be used. PRESSURE ON THE UTERUS through the fornices, per rectum or through the abdominal wall, CAUSES PAIN.

DIAGNOSIS. In laceration of the cervix there are similar subjective symptoms, but the physical examination reveals radiating fissures by which it is definitely diagnosed. It is DIAGNOSED from cancer by absence of the usual signs of cancer, such as friability, sudden hemorrhage, fetid odor and watery discharge

If in doubt, a microscopical examination should be made. There are various conditions, such as granular erosion, ulceration and the above mentioned diseases, which are accompanied by an endometritis but have in addition their own peculiar symptoms.

PROGNOSIS. The **prognosis**, as in other inflammatory diseases, depends upon the length of standing, causes, and the individual case, each one being different. In most cases it is good. If venereal disease is present producing it, the prognosis is not so good, since the disease, when once in the uterus or Fallopian tubes, is very hard to eradicate. If due to a laceration and the patient otherwise in good health, it is favorable. If the patient is pale, anemic, the blood thin, and there is much weakness, the prognosis, as to a cure is unfavorable, but for relief it is favorable. Under osteopathic treatment the prognosis is a great deal more favorable than under any other, and it is the exception to meet with a case that cannot at least be helped if not entirely cured. Cases have been cured at the Infirmary at Kirksville, in which the inflammation was so marked that the entire endometrium was thrown off *EN MASSE* every few days, that is, just as often as it was formed.

TREATMENT. The **treatment** of endometritis depends on the cause producing it and the stage of inflammation. The object to be attained is to relieve the congestion and to flush the affected parts with pure blood. If a **BONY LESION** is found it should be corrected as soon as possible, since a cure depends on it. If it is ascertained that the cause is a displacement of the uterus it should also be corrected, for the uterus will **REMAIN CONGESTED** almost as long as it is malposed. If a laceration is the cause, treatment should be directed to it to get union of the two edges, or at least to remove the congestion.

The method most in vogue among physicians is curettage

of the uterus. A dull or sharp instrument is introduced into the cavity and the endometrium scraped away. It seems to me like a barbarous method by which to torture a patient, and I have the first case to see in which any permanent good resulted. Patient after patient has come to me for treatment for this disease, that has had the operation performed one or more times. The THEORY is that a new endometrium which is healthy will be formed. IF THE NOURISHMENT WERE SHUT OFF FROM THE OLD ENDOMETRIUM SO THAT THERE WAS CONGESTION AND INFLAMMATION OR DISTURBANCE IN NUTRITION, **how could a healthy endometrium be formed without first correcting the primary cause of the trouble.** It is treating the effect and leaving the cause alone. Suppose a bony lesion, and by the way it is the most important and common cause found, is producing the trouble; the uterus might be curetted every month until the patient reaches the menopause, but still the cause exists and the endometrium will be diseased. Nostrom in speaking of curettage in endometritis says: "I wonder how a procedure like this can have any influence on the inflammation of the uterine parenchyma, which always co-exists to a greater or lesser degree with the endometritis, when the latter has been of long standing. It appears to me as if, when the mucous membrane is regenerated and connection between the endometrium and parenchyma is re-established, the previous morbid symptoms would easily return, since they have the same blood, lymphatic and nerve supply. This is just what frequently happens and I attribute to this the frequent relapses. I have seen one, two and even three relapses follow curettage done by the most skillful gynecologists."

He further says: "Besides, to pretend to cure cervical catarrh by curettage seems to me to be an illusion which the most primitive anatomical knowledge will be sufficient to destroy."

This Swedish author certainly voices the sentiment of most osteopaths on the above subject. **Diseases must be treated from the anatomical standpoint if a cure is expected.** Treatment applied to an effect, and the use of a curette in endometritis is one, will not remove the cause.

This bony lesion, usually a slipped innominate, shuts off part of the nerve force which should go to the uterus. The circulation is slowed and degenerative changes take place in the blood. By the STIMULATION which results from a correction of these lesions, both bony and muscular, the BLOOD PRESSURE IS RAISED and the OLD STAGNATED BLOOD FORCED OUT and replaced by new. This is the object we want to attain.

Again, manipulate over the abdomen to lift up the intestines, raise the diaphragm and remove the pressure from the veins; this tends to relieve the congestion accompanying the endometritis. Since endometritis is preceded by congestion, in most cases the above becomes a VERY IMPORTANT TREATMENT. Rest should be required and the patient not allowed to remain long on her feet.

PROPHYLACTIC treatment should be given in cases of repeated endometritis. The patient should guard against exposure and excitement during the menstrual flow. Hot vaginal douches are commonly advocated but I think they are of little use either as a curative or prophylactic measure.

Recently the writer treated a case of chronic endometritis coupled with membranous dysmenorrhea, in which a prominent physician had advised a daily irrigation of the vagina in which forty gallons of hot water were used at a sitting. This was repeated daily for over a month. The patient survived and the inflammation was partly relieved but the pelvic floor and vaginal walls were greatly weakened. The mucous membrane

seemed to be "washed out" and it took several months' treatment to restore tone and normal secretion. Various medicated preparations are advised, but they usually irritate instead of alleviate.

In the gonorrheal type of endometritis little can be accomplished by antiseptic douches. This form of endometritis is very hard to cure; in fact, it is regarded by most physicians as practically incurable. From an osteopathic view point, the same kind of a treatment is given in this as in the other types of uterine inflammation, that is, one directed to restoring normal circulation through the uterus. This is ACCOMPLISHED in many cases by correcting lesions, whether bony, muscular or visceral. In other words, PERFECT ADJUSTMENT is attempted which, if secured, will result in the cure of any disease unless death of too great amount of tissue has taken place. IN AN ADJUSTED BODY THE BLOOD IS PURE, hence GERMICIDAL, and as a result, the gonococci in the uterine cavity will be destroyed, if they come in contact with it.

METRITIS.

Metritis is an inflammation of the parenchyma of the uterus. It is usually found associated with endometritis, sometimes as a cause, but more frequently as a result. It is also found in connection with ovarian troubles and other pelvic inflammatory conditions. PERIMETRITIS is frequently found as a complication, the patient complaining of tenderness and pain over the lower part of the abdominal wall. Adhesions, joining the uterus to some neighboring structure, are present as a result of the exudate.

CAUSES. INFLAMMATION of the UTERINE walls is caused by the same factors that enter into the causation of inflammation of the endometrium, on account of the relation of the endometrium to the walls of the uterus. METRITIS ALWAYS COMPLICATES ENDOMETRITIS, and in many cases the latter is the primary inflammation of the uterus. It occurs more frequently as a sequel to parturition than from any other cause. While the uterus is enlarged, it is congested and is subject to displacement and injuries. Some writers describe subinvolution as a form of chronic metritis. It is present in subinvolution, possibly as an effect, not as a cause. Any CAUSE which INCREASES the CONGESTION of the uterus WILL PRODUCE INFLAMMATION of its substance.

The **bony lesions** are the most important causes of this form of uterine disease. These lesions are commonly present in the lumbar region; also the innominata are often found displaced. The VASO-MOTOR centers for the uterus, also the CENTERS for the TONE of the uterine muscle fibers, are affected by these lesions.

Congestion of the uterus follows a disturbance of these vasomotor centers since the usual effect of the lesion on the center, is that of inhibition. In chronic cases relaxation follows disturbance of the center for tone of muscles. CRAMPING of the uterus usually occurs as an immediate or primary effect. Since a certain amount of uterine contraction or tone is necessary to a normal uterine circulation, a vascular effect is produced by a disturbance of the center for tone. ENLARGEMENT, with venous engorgement, follows these disturbances which lead to chronic metritis.

If the patient has led a life involving standing on the feet a great deal of the time, the sacrum (lower part) is thrown backward since the weight of the body is supported by the upper part of the sacrum. If she leads a sedentary life and is not on her feet very much, or there has been no jarring or straining of the pelvis while in the erect posture, the lower part of the sacrum may be thrown forward; but this is rare in comparison with the other forms of displacement. If there is a kyphosis of the lumbar vertebrae the upper part of the sacrum will be drawn, or rather forced, backward for compensation. SEDENTARY OCCUPATIONS TEND TO PRODUCE A POSTERIOR LUMBAR CURVE WHICH IS FOLLOWED BY A STRAIGHT SACRUM. Displacements of the sacrum affect the different muscles attached to these bones, especially the quadratus lumborum, thus producing traction on the twelfth rib and TENDERNESS IN THE SMALL OF THE BACK.

The various CAUSES MENTIONED UNDER ENDOMETRITIS will also produce this condition, since both metritis and endometritis follow any condition resulting in uterine congestion. Exposure during menstruation, injury, childbirth, constipation, enteroptosis, strain of the back, displacement of the uterus, abdominal and pelvic growths, infection, stem pessaries, intra-

uterine medication, excessive venery and the various devices used to prevent pregnancy, and the BONY LESIONS mentioned above are the most common causes.

A great many of these exciting causes depend upon the predisposing weakness produced by these bony lesions. The most important of these causes, judging from my own practice, are **exposure during menstruation** and **acute uterine displacement**. If the patient becomes chilled during the menstrual period, the flow may be lessened or stopped; the uterus increases in size, filling the true pelvic cavity; fever follows and PERITONITIS of varying degrees is present in all cases. The uterus was physiologically congested, the retention or lessening of the flow changing it to a pathological congestion, which always PRECEDES INFLAMMATION.

A **sudden prolapsus** produces a similar effect; first the congestion, then swelling or enlargement of the uterus followed by inflammation.

These causes, however, are not always active unless there are predisposing conditions which weaken the pelvic organs. These predisposing causes are lesions, enteroptosis from standing, and subinvolution from improper care at or just after labor.

In very chronic cases of metritis, after the acute symptoms such as peritonitis, fever and acute congestion have diminished or disappeared, the uterus becomes hardened or sclerosed; there is an increase in the amount of connective tissue between the muscle fibers; a thickening of the coats of the vessels, especially the arteries; and UTERUS BECOMES ALMOST AS HARD AS CARTILAGE. This is the result of inflammation, it terminating in such cases in formation of scar tissue.

SYMPTOMS. In ACUTE METRITIS there may be a rigor, fever, a distended, swollen condition of the abdomen with SHARP pain and tenderness. On account of it affecting the peritoneum,

the symptoms of peritonitis are present. The PRESSURE pains are very severe; the BACKACHE is ALMOST UNBEARABLE; TENESMUS of the rectum with HEMORRHOIDS occurs in most cases; the UTERUS ITSELF ACHES as does an edematous leg or testicle, on account of the varicose condition of its veins; there is PERSISTENT PELVIC pain with EXTREME ABDOMINAL TENDERNESS, this being most marked in the iliac fossae; and the secretions are increased and are of a VERY FOUL ODOR.

In chronic cases, menstruation is affected, usually painful and increased in amount and the menstrual discharge clotted. SECRETIONS are deranged, leucorrhea being usually present. There is a constant SENSE OF WEIGHT, dragging SENSATION OF the limbs, CHRONIC backache and HEADACHE. HYSTERIA in its various forms may be present. FUNCTIONAL heart troubles are common, the patient FAINTING on the slightest provocation. NERVOUS DYSPEPSIA exists, and, in short, nearly all the reflexes depending on inflammation of the uterus. A DISPLACED UTERUS causes the GREATEST TROUBLE when congestion and inflammation accompany it. I have relieved various reflex pains and aches supposed to have been due to a displacement, by partially relieving the inflammation and not correcting the displaced uterus. It is best to correct the displacement if it can be done, but in a great many cases it can not be done and you will have to depend for relief of the symptoms upon the treatment to relieve the congestion. Of course all the inflammation and congestion in every case can not be removed while the uterus is still displaced, but a large per cent. can, and this gives wonderful relief.

A great many women have displacements which give them little or no trouble because there is no congestion or inflammation attending them. As mentioned above, the AMOUNT OF PAIN, as well as the number and intensity of the reflexes, is determined

by the character and degree of the pelvic inflammation. As stated before, a UTERUS FREE FROM INFLAMMATION, that is, one not tender on palpation, is about as normal as it is possible for it to be, regardless of its position.

Metritis then, is the MOST IMPORTANT of uterine affections and merits most attention. The most important sign in the **diagnosis** of metritis is, the **tenderness of the uterus** as elicited by abdominal and vaginal palpation. Pressure just above the symphysis pubis, causes an acute or dull pain, it depending on the amount and degree of inflammation of the uterus. As in endometritis, cystitis should be kept in mind since pain is produced on pressure just above the symphysis, if it is present.

On vaginal examination the os is found patulous, the cervix soft and enlarged. In cervical metritis, digital examination reveals a SOFTENED area JUST INTERNAL TO AN APPARENTLY CARTILAGINOUS rim, which condition is possibly due to cystic degeneration. Sometimes there is a SOFT VELVETY COVERING on this hardened rim, and shot-like bodies, as in laceration, are found embedded in the cervix. These bodies can be seen on examination with the speculum and give the cervix a wart-like appearance.

If the case is chronic, the vaginal walls are soft and weak. A slimy discharge that is a vaginal leucorrhea is present, covering them.

On bimanual examination the entire uterus is found enlarged and tender. Sometimes this examination can not be made on account of the pain it causes. The uterus is usually RETROVERTED or retroflexed, more frequently a mild form of the latter. The corpus, weakened by inflammation, allows the fundus to be forced either forward or backward according to the forces acting upon it, since it is the support of the fundus. STERILITY is a result, if the condition has existed for some time.

PROGNOSIS. The **prognosis** is favorable in most cases. Upon the relieving or cure of this condition DEPENDS THE CURE of most cases of dysmenorrhea, reflex troubles, backaches, uterine form of leucorrhea and the various local pelvic pains that are so common in the female. If the condition is very chronic, do not promise the patient a cure in a given length of time. If the back is RIGID, and the bony displacements fixed and immovable, it will take time to restore them to the normal condition. Relief can be given in a short time if there is acute pain.

TREATMENT. The **treatment** is similar to that given under endometritis. The bony lesions should be corrected; in short, any lesion interfering with the normal nervous connection should be removed. This is accomplished by CORRECTING THE BONY LESION or by working directly over the structures and viscera. OBSTRUCTIONS to the proper return of blood to the heart should be removed. These can be removed by work directed to the intestines, lifting them out of the true pelvis and working directly over the deep veins of the abdomen. Advise the patient to keep off her feet as much as possible and to be out in the open air a great deal. The fresh air is exhilarating and builds up the quality of the blood, which is very helpful. Hermann says that there is NO DRUG that has any specific effect upon subinvolution or chronic metritis.

The UTERINE DISPLACEMENTS should be corrected, since the congestion depends to a certain extent upon the twisting of the broad ligaments which impinges the blood vessels. MASSAGE of the uterus is highly recommended by some osteopaths. If properly given it is quite helpful in restoring normal circulation through the uterus, and tone to its ligaments. A quantity of retained secretions can be worked out of the uterus by carefully manipulating it.

The patient should avoid exposure during the monthly sickness. There is an increased congestion at this time, consequently all the symptoms of metritis are aggravated. The GENUPECTORAL position is helpful and should be taken at least once each day since the uterus partially empties itself of blood while the patient is in this position. ABDOMINAL TREATMENTS are best given while in this position, since gentle work over the abdomen helps the return circulation by relieving the pressure of the intestines.

Attention to the action of the bowels is important. A distended rectum and sigmoid flexure favor a localized venous congestion and are partly to blame for some of the varied disturbances which are found in connection with uterine diseases. The practice of using WARM WATER IN VAGINAL douches and the production of scarification of the uterus are not to be recommended. Depletion by means of leeches and counter-irritants are not indicated, and are productive of more harm than good.

ACUTE INFLAMMATION OF THE UTERUS.

ACUTE INFLAMMATION OF THE UTERUS is characterized by fever, distention of the abdomen, cessation of secretions at first, and **pain**, either local or reflex, usually referred to the stomach, liver, or small intestines. The patient lies with the limbs drawn up, the abdominal muscles being very tense and very much contracted. The appetite is lost and the stomach deranged. On local examination the VAGINAL walls are found to be VERY HOT to the touch. The UTERUS is very TENDER, FIXED and the ligaments tense. **Displacement**, which has come on suddenly, is usually found, and is in most cases a **prolapsus**, resulting from running or a fall. Immediate congestion ensues, pelvic pain becomes intense and within a few hours the signs of inflammation are apparent. In many of these cases, a chronic uterine displacement was primary; the exciting cause exaggerating the malposition. In other cases the acute METRITIS is due to SPECIFIC infection which traveled from the vagina to the uterus. In such cases the vaginal symptoms of gonorrhea are present in addition to the inflammation of the uterus and its adnexa. By correcting the displaced uterus and relaxing the muscles over the lower lumbar and sacral regions, the fever can be reduced and the inflammation relieved. The writer has cured most of his cases of acute inflammation of the uterus which were brought on by sudden displacements, by FIRST REPLACING THE UTERUS, then placing the patient in the genu-pectoral position, and while in that position, WORKING OUT THE CONGESTION.

The other IMPORTANT CAUSE of acute metritis is EXPOSURE DURING the **menstrual flow**. It may be only a chilling of the

body but the quantity of the flow is affected. Anything that results in catching cold at that time may stop the flow and produce inflammation. If the flow is suddenly checked inflammation is almost sure to follow.

In the treatment of acute metritis the use of hydroscopic agents, such as glycerine tampons, is advised. I have used with success such agents, that is, they relieved temporarily until I could adjust the displacement. If used to excess, they ARE INJURIOUS in that the tampons dilate the vagina, thus weakening the supports of the uterus. If the uterus IS ADHERED, ENGORGED and FIRM, REPEATED ATTEMPTS at replacement are indicated, until it is replaced or reduced in size. If the uterus is very tender care should be exercised as to the amount of force used. Some advise the use of a very large sound but it is extremely doubtful if any good is accomplished by it. I rather think harm results. **The menstrual flow should be established** as soon as possible as this **relieves** the intense **pelvic engorgement**. This flow is not a regular menstruation but rather a metrorrhagia. The digital local treatment is usually sufficient to start the flow. The abdominal treatment is similar to that given in chronic metritis except that more care must be exercised on account of the peritonitis.

SUBINVOLUTION.

SUBINVOLUTION of the uterus is an enlarged condition, which is the result of an **IMPERFECT CONTRACTION** or involution after childbirth or abortion. In a typical case, the involution should be complete within six weeks after delivery, but in a great many cases, especially if there was a laceration and the patient not very robust, it takes a much longer time. The **muscular elements**, which were enormously increased in size and number, fail to undergo atrophy and absorption; the blood vessels are engorged and the lymphatics distended. The **connective** tissue is increased in amount and the uterine walls remain thick. The enlargement is, as a rule, symmetrical, but in some cases it is confined to one part, principally the cervix. This form, when occurring in the cervix, may be mistaken for a prolapsus. The uterine cavity, as in the fibroid tumor, is enlarged.

CAUSES. The **causes** of subinvolution are **BONY LESIONS** affecting the innervation of the uterus, **ACCIDENTS**, or complications of labor, and **NEGLECT** during the **PUERPERIUM**. The bony lesions will prevent proper involution even though great care be taken of the woman during the lying-in period. These lesions are similar to other bony lesions which affect uterine circulation, namely, subluxations of the lumbar vertebrae, sacrum, innominate or coccyx.

Recently a case of subinvolution came under my observation, the result of a displaced coccyx which occurred at childbirth. This kept up a constant irritation of the perineum resulting in congestion of the pelvic floor, vagina and uterus, thus hindering **CONTRACTION** of the uterus.

RISING from the bed VERY EARLY, standing on the feet too long or over exertion too soon after delivery are common causes. However, these causes depend to a certain extent upon the above mentioned bony lesions. If these lesions did not exist the exciting cause would not act so readily. **Lacerations** cause congestion, hence a disturbance of the normal involution of the uterus. A resumption of the **marital relations** soon after delivery is a common cause. In such cases, the menses are re-established within a few months and of course along with this marked uterine engorgement. The uterus is thus kept congested, there being no chance given it to properly involute. **Frequent pregnancies** are liable to be attended by subinvolution on account of loss of tonicity of the muscular walls from frequent distention. Another very important, possibly the most important cause, bony lesions excepted, is the **non-nursing** of the mother by the **new born baby**.

ABOUT 60 per cent. of all babies born of mothers who do not have to do manual work for an existence, are **bottle fed**. SUBINVOLUTION, not only of the uterus and its adnexa, but of the ABDOMINAL wall, is present in nearly every case. THE NURSING OF THE CHILD HAS A MARKED EFFECT ON UTERINE CONTRACTION WHICH IS NECESSARY TO PERFECT INVOLUTION. This is proven by the fact that for a week or more after labor the LOCHIAL DISCHARGE is increased in amount at each nursing. The after pains are worst at the time of nursing, and on palpation the uterus can be felt as a firmly contracted body. The stimulus to the nipple resulting from the nursing reflexly contracts the uterus, hence in cases in which the mother does not nurse the child these stimuli are absent and as a consequence the uterus remains large, which condition is called subinvolution. The ABDOMINAL WALL BECOMES FLABBY and PENDULOUS; the patient has a bad form. All the various kinds of abdominal binders would not prevent

this in the above sort of case. The PELVIC FLOOR remains stretched, causing a weakening of the uterine supports. These things can in a measure be prevented. The child should be nursed during the puerperium if it is possible to do so, even though there are some contraindications.

CHILDBED FEVER, if permitted to occur, is followed by a congestion and subinvolution of the uterus. Retention of secundines or a prolonged labor weaken the walls of the uterus and prevent its proper contraction after childbirth.

SYMPTOMS. NEARLY EVERY SYMPTOM, both constitutional and local, which comes from a uterine affection ATTENDS A SUBINVOLUTION. PAIN, aches in lumbar and sacral regions, pelvic distress and bladder disturbances are common; constipation, hemorrhoids, anorexia and nausea are found; chronic inflammation of the uterus with its attending evils follow as a result of the congestion; abnormal secretions and menstrual disorders exist. The MOST COMMON MENSTRUAL disorder is MENORRHAGIA, the next dysmenorrhea. The health is undermined and the patient feels weak and of no account. There is inability to concentrate the mind and tendency to forget names. SLEEP DOES NOT REFRESH and the patient awakes with a backache. The limbs feel heavy and there is difficulty in walking. Various reflex nervous phenomena are present. These nervous indications vary in degree from a mild form of restlessness to the hysterical convulsions. If laceration is the primary cause these nervous phenomena are more marked. Anemia soon develops with its weakness and sense of exhaustion. If a patient were to come into the office suffering with the above symptoms dating from childbirth, subinvolution should be suspected with laceration as a cause.

DIAGNOSIS. On digital examination the CERVIX IS FOUND

TO BE LARGE AND SOFT. The os is very patulous, sometimes admitting the examining finger. This PATULOUS CONDITION of the external os may come from other causes, such as SEXUAL EXCESSES, and thus mislead the physician as to the real cause. During sexual congress the uterus descends and the os dilates. Repeated dilation soon results in a permanent enlargement to which is given the term patulous. The cervix is very much thickened and shortened and feels like a round blunt body. Tenderness is present, due to the inflammation which usually accompanies the condition. When the uterus is outlined it is found to be considerably larger and softer than the normal.

On account of the lack of tone, both in the uterine walls and ligaments, retro-displacement and prolapsus are usually present. The form of retro-deviation is commonly a retroflexion. The writer has seen many cases in which the fundus was on a level with the umbilicus. By pressure on the posterior part of the uterus through the posterior fornix or rectum the impulse would be transmitted to the external hand placed at the umbilicus. The HISTORY of the trouble will aid in the diagnosis. If, as mentioned above, the trouble dates from parturition, the patient getting up a few days after delivery, and a laceration is present, although it can occur without it, and the uterus is found in the above described condition, subinvolution is probably the condition.

The patient should be kept in bed at least NINE DAYS after delivery, regardless of her apparent strength, for the uterus is usually too heavy before the end of a week to be held in position by the weakened ligaments while she is in the erect posture. There can be given no hard and fast rule regarding the number of days that the patient should be kept in bed, for one patient may get up before the end of a week and no apparent evil effects fol-

low; another may do likewise and become a chronic invalid, so, to be on the safe side, keep her in bed at least nine days, or as much longer as is necessary for her to recuperate.

TREATMENT. The treatment is similar to that outlined for chronic inflammatory conditions of the uterus. **BONY DISPLACEMENTS** should be corrected and the patient should rest as much as possible. Treatment should also be given over the course of the veins returning the blood to the heart. The pelvic floor may be strengthened by a strong stimulating treatment in the lumbar and sacral regions to free and stimulate the nerve force to the muscles comprising the floor. Separating the knees against resistance strengthens the muscles. **A MUSCLE FIBER RELAXES WHEN THE AMOUNT OF NERVE FORCE TO IT IS LESSENERD.** In subinvolution, the lesions mentioned interfere with or shut off these nervous impulses, the muscle fibers remaining relaxed and large. Correction of these lesions is necessary in order to get proper contraction of the muscle fibers of the uterus. The stimulating treatment referred to above, helps temporarily.

To temporarily relieve the congestion, place the patient in the knee-chest position while giving the abdominal treatment, which consists principally of lifting the viscera out of the true pelvic cavity. It is advisable to instruct her to assume this position for several minutes each night just before retiring. This lessens the congestion and diminishes the weight of the uterus. The uterus, if found displaced, should be put in its proper position. If it does not stay in place, and it probably will not, it should be replaced every week or so, this depending however, on the character of the symptoms. By replacing the uterus the passive congestion is greatly relieved. If **LACERATION** is the cause of the congestion and subinvolution, treatment should be directed to it, since the subinvolved condition will exist as long as the irritation remains.

SUPERINVOLUTION.

SUPERINVOLUTION is a condition just the opposite to that of subinvolution of the uterus. As the word implies, it is too rapid or excessive involution. It is usually found following parturition, but some cases are due to senile atrophy. It is a rare condition and is probably connected with abortion more frequently than with parturition. The uterus shrinks or contracts beyond the physiological limit, becoming very small, degeneration setting in, all of which conditions combine to make it soft and excessively mobile. The non-puerperal atrophy is sometimes caused by pressure from a fibroid tumor or it may be the result of an operation. Menstruation is affected, there being amenorrhea or a scanty flow. **STERILITY** is a sequel if it occurs before the climacteric. Some patients complain of various reflex disturbances, but these are rare as compared with other uterine affections, since there is little or no inflammation in the uterus. Treatment should be directed to a building up of the general system and increasing the nutrition of the uterus. In the senile atrophy which occurs after the change of life, few symptoms are present, it being a physiological process. In these cases treatment does little or no good and is seldom indicated.

PERIMETRITIS.

PERIMETRITIS is an inflammation of the PELVIC PERITONEUM, called also LOCAL PELVIC PERITONITIS. It is a very frequent disease and one which results in the formation of adhesions which fix the uterus to some neighboring structure. It is usually a localized affection, being confined to that part of the peritoneum covering the uterus. The parietal layer of peritoneum lining the abdominal wall is continued as a layer over the pelvic structures, the dipping of this layer between the pelvic viscera constituting the ligaments of the viscera. The FUNCTION of the pelvic peritoneum is to permit free motion and to support, hence two forms of disorders result from a perversion of its function, viz., TOO FREE MOBILITY and LESSENED MOBILITY. The first permits of displacements, especially prolapsus. The second is the more pathological of the two because of the inflammation which is, or was, present. The uterus is like a joint—it has ligaments and mobility. If **mobility** CAN BE RESTORED to the uterus (or joint), its function will be normal and congestion and inflammation disappear. An inflamed uterus is seldom if ever mobile.

When inflammation of the peritoneum sets in, nature prevents the diffuse form of peritonitis by forming an exudate, thus producing adhesions WHICH LOCALIZE the inflammation. It, like inflammation of other serous surfaces, is first preceded by congestion followed by effusion, that is, the throwing out of the exudate. This exudate becomes organized and forms scar or fibrous tissue. It is very similar to pleuritis as to cause, pathology and termination, that is there is an inflammation of adjacent organs, secretory changes and the formation of adhesive

bands. It is regarded as a very important disease, for certainly in point of frequency it is second only to endometritis.

CAUSES. The **causes** of perimetritis depend upon a disturbed uterine circulation. This disturbance is usually the result of uterine inflammation. The inflammation spreads by continuity of tissue, to the peritoneum covering the uterus. In **ACUTE INFLAMMATION** of the uterus **ALL THE PELVIC CONTENTS** are more or less inflamed. If a displacement exists the inflammation more rapidly spreads to the peritoneum, and in almost every case adhesions form.

Specific infection reaches the peritoneal cavity by way of the Fallopian tubes and sets up a chronic form of inflammation which is very intractable. Fluids also escape into the peritoneal cavity in the same way. Injections, and especially medicated solutions forced into the uterus, have resulted in a part of the fluid escaping into the peritoneal cavity and setting up an inflammation.

ENDOMETRITIS also produces this local form of peritonitis by the inflammation spreading to the peritoneum through the Fallopian tubes. Any cause that produces endometritis, especially the acute form, will cause perimetritis. **ACUTE METRITIS** invariably results in peritoneal adhesions. In such cases there is present everything necessary, such as an exudate, proximity from enlargement, fixation and inflammation.

The **ACUTE CASES** depend, in most instances, on a **SUDDEN DISPLACEMENT** of the uterus, which sets up an acute congestion and inflammation of the uterus and neighboring structures. Sometimes general peritonitis results or inflammation of the bowels follows. Exposure during the menstrual flow causes a congested condition of the ovaries and other pelvic organs. If a general inflammation is produced it becomes localized as it re-

cedes and adhesions form. INFLAMMATION OF THE BOWELS frequently spreads to the pelvic organs and there sets up secondary inflammatory changes.

SYMPTOMS. In ACUTE cases the **symptoms** are those of an acute metritis, viz., great tenderness of the abdominal walls, swelling of the abdomen, contraction of the abdominal muscles, chills, fever and localized pain. The pain may be colicky and referred to the intestines. The limbs are drawn up to relieve the traction on the abdominal muscles. The symptoms may simulate appendicitis and on this account care should be taken in the diagnosis. The vaginal walls are hot and the uterus fixed by the contracted ligaments. If this condition is allowed to continue, death will ensue from diffuse peritonitis. After the acute symptoms have abated, the exudate becomes hardened and undergoes structural changes, soon forming scar or fibrous tissue. These adhesions between the layers of the peritoneum prevent motion of the uterus and at first it is fixed in one position, which gives it a **board like feeling**. They soon begin to be absorbed, but a few remain on the side in which there was the greatest inflammation and tend to draw the uterus and fix it toward that side. The patient complains of a DRAWING OR PULLING SENSATION in the affected side. The uterus gradually regains more freedom of motion the longer the adhesions exist, unless new ones form, since they are stretched with each jar and movement of the body. In some cases the uterus, when retroverted, is bound down to the rectum and adjacent structures by these adhesions.

By examination through the fornices they can sometimes be felt. On rectal examination the posterior adhesions can be outlined if they are much thickened. If examination is made with the patient in the genu-pectoral position, the adhesions will feel as cords, made tense by the uterus falling away from the rectum.

In the dorsal position the uterus if normal should be freely movable in all directions. By testing this mobility and noticing the side in which there is restriction of motion the location of the adhesions can thus be ascertained. Sometimes in bad cases the UTERUS IS IMMOVABLE, it being held as in a vice.

The **reflex** symptoms are those found in inflammatory conditions of the uterus, such as sideaches, backache, headache and nervous phenomena. STERILITY is the result and MENSTRUAL DISORDERS, especially dysmenorrhea, are frequent.

PROGNOSIS. In the acute form the DANGER LIES in it becoming a DIFFUSE PERITONITIS. If the inflammation can be checked, it will become localized by the exudation and adhesions which are formed. These adhesions which hold the uterus in one position should be **absorbed** or broken up if the inflammation has entirely receded. ABSORPTION is a slower but safer process, and when it can be accomplished good results follow. As long as the lesions exist, the patient will be troubled with various reflex pains which accompany displacement and inflammation of the uterus.

TREATMENT. The **treatment**, in the acute stage, is to correct the displaced uterus if it exists, then relaxing the contracted muscles found along the lower part of the spine. Work around the inflamed parts lessens the congestion and tenderness. The treatment then can be gently given over the point of inflammation. By gradually and steadily increasing the pressure, the inflamed organs can be manipulated, and when this can be done, the inflammation can be worked out.

In the chronic form, treatment applied to the lower lumbar region is beneficial since it promotes a better pelvic circulation. Any treatment that increases the arterial circulation increases the absorptive qualities and this is necessary if the adhesions are to be absorbed. This is the proper way to treat adhesions, that

is, BY INDUCING ABSORPTION. Another method is to break up the adhesions by GRADUALLY STRETCHING them or by USING FORCE. There is danger in breaking them up suddenly, since hemorrhage and inflammation may result. This hemorrhage is in the peritoneal cavity and may excite a diffuse peritonitis. By gently stretching the adhesions every few days and by increasing the pelvic circulation, which things are accompanied by repeated attempts at replacement, the fibrous tissues, which are the result of the inflammatory exudates, will gradually disappear. The adhesions are stretched easily by movements of the uterus as obtained by local treatment, or deep massage over the uterus through the abdominal wall. In case of adhesions fixing the uterus in retroversion, the uterus can be moved forward by rectal treatment. By gently pushing the uterus forward these adhesions will be thinned by constant stretching, and finally disappear.

Abdominal treatment given directly over the uterus, stimulates uterine contraction and betters the pelvic circulation. The uterus can be moved in this way, a thing to be desired in the treatment of adhesions. CIRCULAR MASSAGE over the uterus is one of the best ways to induce uterine contraction. I rely upon it in most cases of post partum hemorrhage.

Since METRITIS complicates most cases of endometritis, the uterus is found congested and enlarged. From this it can be seen that any treatment that excites uterine contraction increases uterine circulation, hence absorption. In these cases as in others, the real trouble and cause must be corrected. The frequency of treatment depends upon what is done at a treatment. If adhesions are broken up, wait a few days before giving another treatment or you may set up a fresh inflammation. If only the congestion is reduced, frequent treatment should be given. If a

bone is set at the first treatment, leave it alone. If the bony lesion is not corrected, treat it again soon, unless inflammation exists.

Adhesions are frequently met with and are very hard conditions to cure. By constantly stretching them they can be gradually broken up and absorbed, but care should be exercised LEST THE INFLAMMATION BE MADE WORSE, hemorrhage produced; followed by a fresh attack of peritonitis. The question is often asked, when should an adhesion be broken up? In cases of DISPLACEMENTS PRODUCING MECHANICAL OR REFLEX SYMPTOMS, in which the uterus is held down by adhesions, even though there is little or no inflammation, they should be broken up. If the uterus is displaced and there is very much inflammation the existing adhesions SHOULD BE ABSORBED. If the uterus is in its normal position it is not likely that adhesions exist, but if they do they may cause trouble and should be broken up. As a rule all cases of displacement which are complicated by these adhesions should be treated.

In many cases, especially in the early stages, there is an exudation of an agglutinating nature which sticks or glues the peritoneal surfaces together. In such cases simply place the patient in the knee-chest position and direct a few light blows on the lumbo-sacral region, thus causing the peritoneal surfaces to separate and the uterus to be replaced.

ADHESIONS uniting the cervix to the vaginal walls are frequently found. I had a case recently in which the cervix could not be outlined, the fornices being completely filled with inflammatory exudates. The uterus was immovable and very much inflamed. These conditions usually result from a long standing vaginitis. In the above case the woman had had uterine disease for years.

The **DIAGNOSIS** can be made by digital examination or by

the use of the speculum. On vaginal examination only a slight elevation or protrusion in the upper part of the vagina can be felt. The parts are tender, the degree of soreness depending upon the amount of inflammation. The cervix can not be encircled with the examining finger and the os is found as a depression at the uterine end of the vagina. The usual symptoms of metritis are present.

These kinds of adhesions are treated in a way similar to peritoneal adhesions, that is, by increasing the blood supply and gradually breaking them up. By attempting to encircle the cervix with the internal finger the adhesions can be readily reached and stretched or broken up unless the case is very chronic. In these chronic cases the adhesions are so fibrous that it is hard to get absorption or even break them up. In such cases the treatment should be directed to relieve the inflammation if any exists. If these vaginal adhesions are causing very little or no trouble, TREATMENT IS NOT INDICATED. If they fix the uterus in an abnormal position or there is a co-existing inflammation of the uterus, they should be removed if possible.

PHYSIOLOGICAL PERIODS.

THE LIFE of a woman is divided into certain physiological periods. The period to puberty, varying from ten to fifteen years, is called **infancy** or childhood. The commencement of the period of sexual activity, usually about thirty years in length, is called **maturity**. The **menopause** or climacteric indicates the cessation of sexual activity and menstruation. The period following the change of life is called **senility**. The two most important are the **TRANSITIONAL** periods, puberty and the menopause, for at these times great nervous changes take place, accompanied by various reflex phenomena and anatomical changes. On account of these nervous changes disease at these times is liable to get a foothold and is very hard to relieve.

INFANCY. During the period of life up to puberty the sexual organs are **PHYSIOLOGICALLY DORMANT**. The uterus is small and non-developed and the ovaries in a condition of inactivity. The mammary glands have not begun to enlarge; hair has not begun to appear on the mons Veneris, and the greater lips are not fully developed, so that the lesser lips protrude beyond the vulva. During this period the evil practices such as masturbation are frequently contracted. If it is near puberty, it brings on premature activity of the sexual apparatus. The clitoris becomes congested and in some cases inflamed. Adhesions frequently form which result in some cases in a hooded clitoris. This causes a loss of nerve force and is associated with various nervous diseases, such as spasms and chorea.

PUBERTY. Puberty is that period at which the genital organs are capable of exercising their physiological function.

This varies in different races and countries. In cold countries puberty develops late, that is, on an average of about the age of thirteen or fourteen. In temperate climates it occurs at about a somewhat earlier age. In warm climates it comes quite early. Girls reared in the country as a rule develop late. On the contrary, girls in the cities develop early on account of the association, kind of food and general excitement of city life. At PUBERTY the UTERUS and APPENDAGES UNDERGO GREAT STRUCTURAL CHANGES. The organs that were hitherto dormant and undeveloped, become active and increase in size; the nervous system becomes dominant and is susceptible to external influences.

The progress of development of the two sexes up to the tenth or eleventh year is equal. The boy develops imperceptibly from youth to manhood without any special disturbances. The female, on the contrary changes rapidly to womanhood and her nervous system is taxed to maintain the equilibrium and proper development of the sexual organs at the same time. The nerve force that ought to be used for their development should not be directed into other channels or else the pelvic organs suffer. It is a critical time and UPON ITS NORMAL TERMINATION DEPENDS MUCH of the after HEALTH and FREEDOM FROM UTERINE disease. A great many women date their trouble back to puberty. They have never menstruated properly and if, in such cases, the history can be obtained, there will be found something that prevented the normal approach of puberty, such as overwork, both mental and physical, exposure or accident.

Puberty is marked by a change in the pelvis. The hips broaden and the form becomes rounded from the accumulation of fat; hair appears on the pubis and labia majora, and the mammary glands begin to enlarge; the ovaries become increased

in size and both the blood and nerve supply to them is increased in amount; ovulation begins, and with it the appearance of menstruation. These things are indicative of the sexual nervous system approaching that maturity which makes a woman capable of procreating. During the change of puberty the patient sometimes becomes anemic, the appetite abnormal in that there is a craving for peculiar kinds of food, eruptions appear on the face, and she complains of weakness and lassitude. The symptoms should disappear if the change to maturity is normally made, but this is not the case in many patients, who remain weak and nervous on account of the unequal nervous distribution. As a result of this, bony LESIONS ARE READILY produced at this time, because the muscles and ligaments are flabby and relaxed.

MATURITY comprises that period between puberty and the menopause or the fruitful period of a woman's life. It should be the period of least disease and disturbance, since it is one of great physiological activity, yet menstrual disorders and inflammatory conditions are frequently found.

If the function of childbearing is not interfered with by artificial means, the woman will have perfect health unless accidents, strains or injuries occur. A woman is predisposed to disease after she reaches the age of thirty if she has not borne children. CHILDBIRTH changes her nervous system, alters her in various ways and fulfils the function for which she was designed. A great many diseases are contracted, and they are on the increase, as a result of interference with this function. The accidents of childbirth, such as laceration, which occur during this period, may be the foundation of future disease. The period of maturity is comparatively free from neuroses and the various mental and imaginary diseases. It is rare to get a case of hysteria in a woman who has borne children unless there has been a laceration

which has not healed. The suffering and changes produced make her able to control herself. FIBROID TUMORS are the most common of the growths which occur during this period.

THE MENOPAUSE is the period at which menstruation ceases. The average age at which the change of life occurs is FORTY-FIVE. It is also called the CLIMACTERIC, which is taken from a word meaning the top round of the ladder. It is a physiological process and marks the close of the sexual activity of the woman. The popular opinion is that the later the menses commence the later the menopause occurs, but in fact just the opposite exists. If, in a woman who is fully developed, the menses come on late, the period of sexual activity will be short, that is the menopause will appear at about the age of forty. The explanation offered is, that the stronger the sexual organs the longer they will retain their power of reproduction, hence menstruation will continue longer. The weaker the generative organs, the later the puberty, the shorter the period of maturity and the fewer pregnancies.

The LENGTH of the MENOPAUSE varies. Usually it covers a period of from ONE to TWO years; in extreme cases it lingers through a period of several years. The writer has treated many cases in which the change of life lasted from five to ten years. Cold climates delay puberty and produce an early menopause; warm climates have the reverse effect. The AVERAGE NUMBER of CHILDREN PER FAMILY is less in cold than in warm climates.

The **cause** of the menopause is in most cases a physiological one, but it may be ARTIFICIALLY PRODUCED. At this time the ruling organs, the ovaries, cease their activity, hence the stimulus which the uterus receives from the ovaries is absent. Impregnation is no longer possible, therefore menstruation is unnecessary. The removal of the ovaries by operation, or a struc-

tural disease of them, brings on a premature menopause. The operation called ovariectomy is often resorted to in uterine disease. Wasting diseases, shock, either physical or mental, which unfit the woman for childbearing, often bring on a premature menopause, especially if she is already approaching it at the time of accident. Chronic metritis predisposes to an early menopause, and one attended with various functional disturbances.

The ANATOMICAL CHANGES are based on the cessation of ovarian influences; the uterus undergoes atrophy, becoming small and hard. In premature menopause, and particularly that form due to ovariectomy, the uterus is said to at first become a little larger and heavier. Hyperemia exists, on which account the menstrual disorders occur. The vagina also becomes injected and swollen with increased secretion. The conditions last several months, followed by atrophy. The VAGINA ATROPHIES, becoming pale and losing its rugae; it shortens and becomes narrower. The uterus gradually becomes smaller, especially its vaginal portion. The changes occur earlier in premature or artificial menopause than in the normal, the atrophic changes being completed within a few months, particularly if the ovaries have been removed. OBESITY results in about 80 per cent. of all cases. NERVOUS PHENOMENA are common, ranging from hysteria to insanity. The sexual function is impaired and in a short time sexual feeling is lost. The vaginal canal becomes so small in some cases that coition is no longer possible. In others it closes entirely, giving rise to retention of the uterine secretions.

The mucous membrane undergoes changes in which the glandular elements are lost. In cases of metritis these atrophic changes are lessened or even entirely absent, the uterus remaining large and congested, giving rise to leucorrhea, often irritating,

displacement and irregular hemorrhages. In the natural menopause the vagina, having undergone senile atrophy, becomes smaller and weaker. The walls are not held permanently together and as a result prolapsus or, in some cases, procidentia occurs. The walls lose their rugae and a great part of their elasticity. This is more marked in some cases which are preceded by chronic uterine trouble covering a period of years. The fornices become shallow, and in some cases, entirely obliterated. The cervix can with difficulty be outlined in such cases, it being felt as a hardened body with a depression in its center corresponding to the os uteri. The ovaries atrophy and the Graafian follicles disappear. They become flattened and hardened and are covered with scars, the remains of the rupture of the Graafian follicles. Dense fibrous tissue replaces the atrophied and degenerated parts of the ovaries. The Fallopian tubes shrink and become shorter, lose their ciliated epithelium, and sometimes the walls unite, thus obliterating the lumen of the tubes. The vulva undergoes degenerative changes; the ostium vaginae becomes patulous, thus exposing the vestibule. The BREASTS degenerate, usually becoming smaller and flatter; the glandular elements disappear and are replaced by fat in cases in which the size is retained. The patient usually becomes obese but in some cases there is loss of flesh. The tendency to the development of malignant growths increases at this time.

Premature menopause is followed by obesity unless it is complicated by other diseases. AMENORRHEA is frequently found in obese women, the result of inactivity of the ovary, which is also the probable cause of the obesity. It is a well known fact that the more obese the patient, whether male or female, the smaller the genitalia, particularly the ovaries or testes. Weakness of these organs follows and in very obese women the FUNCTION IS

SUSPENDED, that is, there is amenorrhea, sterility and atrophy similar to that of the climacteric. The physiological changes are those of cessation of function of the internal organs of generation, namely, cessation of menstruation and ovulation.

SYMPTOMS. The symptoms of the menopause may be divided into two classes: First, the local symptoms which are due to the menstrual changes; and second, the reflex or systemic disturbances which are so common. The **FIRST SYMPTOM** of the approach of the menopause is the **irregular menstruation**. The menstruation may be delayed, it occurring at the fifth or sixth week, or it may come on at any time. These menstrual changes in a woman past forty constitute the **CARDINAL INDICATIONS** of the approach of the menopause. The amount varies, sometimes being increased, sometimes lessened, but there is usually hemorrhage. Sometimes the hemorrhage is so profuse that it threatens the patient's life; in such cases cancer should be suspected.

The flow is prolonged, sometimes lasting from six to eight days, and in some cases is continuous for several weeks. This is an abnormal symptom and an examination should be made lest there be a malignant disease. Irregular hemorrhages, called metrorrhagia, may occur irregularly for years, sometimes the patient skipping several months; it recurring after exertion. Reed says that at the menopause lurking cancer advances by leaps, and that any metrorrhagia at this time of life should excite suspicions of cancer. An **OSTEOPATHIC TREATMENT**, which increases the blood supply to the pelvic organs, will frequently bring on the flow even after it has ceased for a year. It is not an alarming symptom, and frequently proves beneficial. This is especially true in an abrupt cessation of the menses. If they do not stop in the proper way, the patient will have trouble until menstruation appears again.

The **reflex** symptoms are many and cover the entire category of reflected troubles. The CIRCULATORY changes are first noticed. The head is congested, causing a flushed face, insomnia, or a restless sleep disturbed by dreams. VERTIGO is common, also a roaring and buzzing in the ears, or TINNITUS aurium. A part of the body may become numb, the arm being the part most frequently affected in this way. Eye sight is affected, it being blurred, or spots appear in the field of vision. The characteristic vaso-motor changes inducing **hot and cold flashes** or a localized congestion are commonly present. The patient suddenly breaks out into a cold perspiration usually localized along the spinal column or the course of a rib. In some cases the head becomes very hot, or a general increase of temperature may occur. The heart is commonly attacked, causing palpitation, tachycardia and dyspnea. It becomes very weak with the pulse very indistinct, or it may become labored in its action. SYNCOPE follows if the heart is much weakened, but it is seldom fatal. This follows any mental shock such as a sudden fright. In such cases the patient should be placed in the dorsal position, with her head low, then the RIBS OVER THE HEART SHOULD BE RAISED, giving the heart more room in which to work. An intense pruritus vulvae is sometimes found, accompanied by a leucorrheal discharge. This is the result of a disturbance of the circulation of the vagina and vulva. The various mucous membranes of the body become congested, resulting in a catarrhal condition. HEMOPTYSIS occurs in some cases, HEMATEMESIS in others. The hemorrhoidal plexus of veins in case of piles, bleeds very freely at this time. These various sensory and circulatory disturbances are supposed to be due to a retention of blood which does not find an outlet at the menstrual period.

The nerve force is deranged on account of the changed con-

dition of the pelvic circulation. Like the onset of menstruation, the menopause is attended by marked nervous symptoms. Byron Robinson says that a stormy puberty is followed by a stormy menopause. These various changes manifest themselves in irritability of temper, melancholia, hysteria and other mental disturbances of different varieties. INSANITY, accompanying the menopause, has been noted in some cases. Hysteria is a marked symptom. The sexual appetite becomes inordinate, in some cases leading to excesses. The patient's entire disposition is changed, she frequently becoming peevish and fretful. This, however, is not found in every case.

These VARIOUS REFLEX TROUBLES depend upon the strength of the parts affected. IF A LESION DISTURBS THE INNERVATION of the heart then the exciting cause, the circulatory and nervous changes in the pelvic viscera will weaken it more. If neck lesions exist the circulation to the brain is altered, often to a pathological degree. This, coupled with the changes in the pelvic genitalia, leads to diseased conditions or perversions ranging from a mere idiosyncrasy to insanity. The same may be said of other forms of reflexes. There is usually a bony lesion affecting the part, whether the stomach, lungs, bowels, or cerebral circulation, which weakens it so that it cannot resist the exciting causes which are at work.

The DANGERS of the menopause are the tendency to HEMORRHAGE, and onset of MALIGNANT DISEASES, principally CANCER of the uterus and breast. Every woman knows this and, on this account, if there is an abnormal condition it injuriously preys on her mind. On the other hand the MENOPAUSE CURES A GREAT MANY PELVIC DISEASES. Dysmenorrhea in all its varied forms disappears; inflammatory conditions abate on account of the atrophic changes; fibroid tumors cease their growth, or atro-

phy from lack of nourishment; various ovarian troubles are cured, thus relieving the patient of pains which have made life a burden. Such patients hail with joy the approach of the menopause.

The **diagnosis** of the approach of the menopause is made by noting the irregular, scanty, or profuse menstruation and peculiar reflex symptoms not before noticed by the patient. If these symptoms appear in a woman between the ages of forty and fifty, who has been previously healthy, suspect the menopause as the cause.

TREATMENT. The **treatment** is palliative, that is, the various symptoms can be relieved but not entirely cured until the cessation of the flow. The symptoms should be treated as they arise. If the heart is weak, strengthen it by raising the ribs and correcting the predisposing weakness. The hot flashes are usually controlled by a spinal treatment and by work applied to the pelvic organs, since these flashes are the result of some of the pelvic disturbances. Vertigo, headaches, and the eye and ear derangements can be helped by neck treatment, but the symptoms can not, as a rule, be permanently relieved until the change of life is past. The hemorrhage, if excessive, is stopped by treatment which produces uterine contraction. As mentioned above, the menses may reappear after a hard treatment, but do not be alarmed unless the hemorrhage is excessive or frequent, since evil results seldom follow.

If the abnormal conditions of the change of life are due to bony lesions, treatment should be given to correct these lesions. In cases of chronic uterine disease these lesions are common and do affect the menopause. Lesions which affect the other physiological functions of the uterus will certainly affect the menopause and should be regarded as important causes in cases of abnormal change of life.

The **premature** or acquired type of **menopause** is the form that most frequently calls for treatment. The **NATURAL** or physiological type is, or rather should be, **FREE FROM SYMPTOMS** severe enough to warrant treatment. The produced or intentional type is brought about by the removal of the ovaries or uterus. This is done in order to relieve ovarian or uterine disease, dysmenorrhea or menorrhagia, lessen the growth of uterine fibroids, or to cure certain diseases which are supposed to depend on a diseased condition of the ovaries or uterus, such as epilepsy, insanity or excessive nervousness. It is of value in some of these cases, especially if there is an abuse of the sexual organs, yet I have seen many cases of insanity, epilepsy and other diseases not even benefited and some even made worse by bringing on a premature menopause by ovariectomy. The cystic ovary is the kind most often operated on.

Premature menopause from causes other than operations such as shock or wasting diseases, seldom produces such evil effects as the above. If the result of mental shock, various functional disorders, cerebral disturbances, backache and nervousness may follow. I recall one case in which a mental shock at the menstrual period brought on a premature menopause followed by a very marked chronic eruption and ulceration of the skin.

Ovariectomy performed before the menopause has certain effects that are fairly constant. **MENSTRUATION** usually **CEASES** at once if **BOTH OVARIES** ARE **COMPLETELY REMOVED**. Sometimes for a while **VICARIOUS MENSTRUATION** and **metrorrhagia** follow. The menstrual metrorrhagia are most pronounced, and are characterized by pain over the ovaries, in the breasts, head, back and lower limbs, tinnitus aurium, vomiting, fainting and laborled or otherwise disturbed heart beat. These symptoms are followed by hot and cold flashes, or even flushings of the skin that

are plainly visible. These thermic flashes are irregular and recur several times per day. Localized perspiration, a sense of weakness and thoracic oppression, leucorrhea in its worst form, are present and the appearance of "mannish tendencies" are common if the ovaries are removed quite early, that is as young as the age of twenty-five years.

The **local effects** of ovariectomy, or of the artificial menopause induced by it, are: **HYPEREMIA** of the **UTERUS** continuing for several months, characterized by hemorrhages of varying degrees, and leucorrhea; **ATROPHY** and softening of the vaginal walls, on which account the rugae disappear, the walls become dry and the mucous membrane folded or prolapsed. The uterine atrophic changes are similar to those in the normal menopause, but more rapid, obesity develops, the sexual function is perverted or destroyed followed by depression of spirits, and the patient is in a worse condition than she was before she was operated on. In other cases a sense of drawing or contraction appears in the groin as a result of the formation of scar tissue which contracts. Sometimes this "pulling" as the patient describes it, is very painful and annoying.

The **PRODUCTION** of a **PREMATURE** menopause by ovariectomy is indicated in a **FEW CASES**, but in most cases osteopathic treatment does away with the necessity of an operation. In cases of chronic disease of the ovaries, tubes or uterus, which do not respond to treatment after a thorough trial, and which cause local pain, menstrual disturbances or reflex phenomena to a pathological extent, an operation is indicated, but such cases are few.

SENILITY is that period which follows the change of life. It is a period of repose and one of **PHYSIOLOGICAL INACTIVITY** of the sexual organs. In the early part of the period, malignant growths are prone to occur. Any abnormal hemorrhage of the

uterus should be carefully investigated. Prolapsus is frequently found, but causes comparatively little trouble. The cases of COMPLETE PROCIDENTIA are most frequently found during this period. The patient is usually free from the ordinary uterine disturbances and **cancer** is about the only disease to be feared. Occasionally during this period prolapsus and retroversion produce marked reflex symptoms, such as an intense backache, headache or queer feelings in the head, loss of memory and symptoms suggestive of softening of the brain. Sometimes fibroid tumors appear even at this late age, but only in cases of uterine injury or disease.

OVULATION is the process which includes the maturing of the Graafian follicle, its rupture, escape of the ovum and its transmission to the uterus, although it may drop down into the peritoneal cavity and there perish. Reed says "paradoxical as it may appear, it may be well said that nowhere in the body do we have a physiologic process with such typical pathologic features as are found in ovulation." He further states that "after a Graafian follicle matures there is a rupture and hemorrhage followed by formation of cicatricial tissue." It begins at puberty, or rather, puberty depends upon the beginning of ovulation. This occurs between the thirteenth and fifteenth years.

In most animals, OVULATION is a periodic process occurring in certain seasons and marked by increased sexual activity. In the woman, and many domesticated animals, this relation does not exist and ovulation occurs at no stated period. Some believe that it is a periodic phenomenon occurring every month. This is the time of most common occurrence but it may take place at any other time. This has been proven by post mortem examinations revealing fresh scars on the ovaries at the intermenstrual time, these indicating the rupture of the Graafian follicles.

Throughout the entire fruitful, or childbearing period, the development and rupture of the Graafian follicles, which discharge their ova, are continuously occurring. It may occur independently of menstruation, BUT MENSTRUATION CERTAINLY DEPENDS ON THE PHYSIOLOGICAL ACTIVITY OF THE OVARY.

The GRAAFIAN FOLLICLES begin to swell and enormously increase in size just prior to their rupture. As soon as rupture takes place the ovum thrown out upon the peritoneal aspect of the ovary, is then caught up by the fimbriated extremity of the Fallopian tubes and transmitted by means of the ciliated epithelium into the uterus. Some say that the fimbriae are erectile and surround the ovary, while others say that the suction produced by the motion of the cilia, draws the ovum directly into the tube. It is carried directly to the ampulla, or largest part of the tube, at which point impregnation is supposed to take place.

In a DISEASED CONDITION of the ovaries, OVULATION is prevented or interfered with, which results in some form of menstrual disorder. During lactation and pregnancy the process is probably at a standstill, although cases of much sexual irritation following parturition frequently excites activity and brings on ovulation and menstruation. It is also stopped by the removal of the entire ovary and usually by removal of the uterus, although MENSTRUATION CONTINUES LONGER AFTER REMOVAL OF THE UTERUS THAN OF THE OVARY. IMPREGNATION is most LIKELY TO OCCUR, if COITION takes place immediately before or after menstruation. Impregnation may occur at any time, although there are about four days in a month in which it is not likely to take place, these being from the eighteenth to the twenty-second day following the menstrual period. The ovum may stay in the tubes and uterus for some time and still retain the power of becoming impregnated. The same might be said of the spermatozoa.

MENSTRUATION is a **discharge of blood** from the **UTERUS** and Fallopian tubes, accompanied by the shedding of the superficial layers of the mucous membrane, or surface epithelium from it, **OCCURRING DURING** the period of a woman's sexual activity, from puberty to the menopause, every **LUNAR MONTH** or twenty-eight days. It is also called menorrhea, catamenia, monthly sickness, turns, periods, sick time, courses or menses.

Various theories have been set forth to explain this phenomenon. The old writers supposed that it was due to a woman's uncleanness, and menstruation was thought to be an effort on the part of nature to rid herself of noxious elements. Very queer ideas prevailed, such as that a drop of menstrual flow would fade a flower, and that a menstruating woman in a dairy would turn milk sour. Another gives as a cause, a **PLETHORIC** state of the body, the congested condition being relieved by the menstrual flow. The best theory is that it is a **NATURAL** process, and one of the functions of the female organs. It prepares a nidus for the reception of an impregnated ovum and should be no more of a mystery than ovulation. The part we are most interested in is the disturbances of this function, not the vague theories offered for its explanation. The onset is influenced by race, climate, heredity, environments, food and mode of living. A warm climate, **HIGHLY SEASONED** food, excitable surroundings, that is **SEXUAL EXCITEMENTS**, association with the other sex, **EROTIC** pictures or **IMPURE LITERATURE**, all tend to bring menstruation on earlier than if these conditions had not existed. Sexual passion is stronger in some than in others, **MENSTRUATION APPEARING LATE IN THOSE IN WHOM IT IS NOT WELL DEVELOPED**. In those in whom sexual passion is strong, development is early and the menses appear at an early age. Early menstruation generally means a profuse discharge, disordered menstruation

and a late menopause. Late menstruation means scanty and painful menstruation and sterility. At first the menstruation is usually irregular and requires at least a year before regularity is established. The factors which enter into the menstrual function are (1) OVARIAN ACTIVITY, (2) OVARIAN CONGESTION, (3) UTERINE CONGESTION, (4) UTERINE CONTRACTION, (5) a MENSTRUAL FLUID TO BE EXPELLED, and (6) a PASSAGEWAY. ALL MENSTRUAL DISORDERS RESULT FROM DISTURBANCE OF ONE OR MORE of these factors.

MENSTRUAL MOLIMINA include the local and reflex subjective symptoms. Just preceding the flow there is a SENSE of WEIGHT and HEAVINESS in the pelvis and limbs. This is the result of the congestion which precedes menstruation. The BREASTS are tender and full, sometimes a slight secretion taking place. The THYROID gland SWELLS and the mucous membrane of the throat becomes congested. It is a well known fact that SINGERS have often CANCELLED ENGAGEMENTS which occurred at the menstrual period, since their voices were affected; either the voice becoming hoarse, husky and changed in quality, or is entirely lost at that time. PIGMENTATION of the skin occurs, the face becoming more sallow with dark rings under the eyes. Herpes or blisters are found on the lips; also they frequently appear on the face, giving it a mottled appearance. The acne of menstruation are perhaps due to some reflex disturbance of the fifth cranial nerve, as it has on it several sympathetic ganglia.

Nervous changes are noticeable, the patient being changed in disposition; there is also loss of energy and various other symptoms of a disturbed nerve supply. HYSTERIA is more prevalent at this time than at any other, and if the patient is subject to epilepsy or hystero-epilepsy the attacks are harder and occur oftener at this time.

LEUCORRHEA is increased in amount; pruritus is also present in some cases and gives the patient a great deal of trouble, especially during the latter part of menstruation. There is chronic backache, headache, the heart is subject to palpitation and there is a general feeling of lassitude, tenderness and aching over the entire body.

THE FLOW consists, for the greater part, of blood which is supplemented by the mucous secretions and epithelial cells. It is ALKALINE in character and has a peculiar odor. In normal cases it is dark in color and free from clots. There should also be absence of pain, but this condition is rarely found.

The **quantity** has been estimated at from four to six ounces, but it has quite a physiological variation. This can be estimated by the number of napkins used. If the patient has to change the napkin more than two times per day during the height of the flow, the **QUANTITY** is excessive. The author has seen cases in which tampons were used to collect or absorb the menstrual flow. Such a practice long continued results in a dilated vagina, followed by uterine displacement such as retroversion and prolapsus.

The **length** of the flow is on an average about four days, but may be lessened to two days or increased to as many as six, and yet be normal for that individual.

The **source** of the flow is from the mucous membrane lining the uterus and the Fallopian tubes, and a few authors say that some comes even from the ovary. A destructive change occurs in the endometrium which results in its disintegration and the discharge of at least a part. The uterine cavity is soon coated with a new endometrium which furnishes a fresh nidus for the fixation and nutrition of the impregnated ovum. It seems that menstruation is a systemic process, that is one not confined to the

pelvic organs, although they are the prime factors. The whole system undergoes a change, the formation and escape of the ovum, its reception into the uterus, and the local symptoms being only a local expression of the general condition.

CESSATION of the flow occurs on an average at the age of forty-five, yet there are notable exceptions to this rule. LOCAL EXAMINATIONS and TREATMENTS should be avoided, if possible, during the flow, also coition should be prohibited at this time.

GENERAL DISORDERS OF MENSTRUATION.

DISORDERS OF MENSTRUATION. The **disorders of menstruation** form the **most frequent** and important of COMPLAINTS of the female. It is rare to find a woman who has no disorder at the menstrual period; in whom the menstrual period is **FREE FROM PAIN**, of normal amount and length of flow. These disorders do not constitute disease in themselves, but are results or symptoms of the various uterine displacements and inflammation, and are very important in that they are so common. Habits, mode of dress and fashion, are all combined to make the menstrual period the “**SICK TIME**” instead of the “**well time**” as it should be.

The **MENSES** may be absent, which is called **amenorrhea**. The other forms are **SCANTY MENSTRUATION**; **MENORRHAGIA** or too profuse flow; **PAINFUL MENSTRUATION** or **DYSMENORRHEA**. The flow may come from another part of the body and is then called **vicarious menstruation**; or it may begin too early, in which case it is called **precocious menstruation**. Hemorrhage from the uterus at other times than the menstrual period is called **metrorrhagia** and does not belong to the disorders of menstruation. There may also be retarded menstruation, or it may become suppressed or irregular.

AMENORRHEA, as the word implies, means absence of a menstrual discharge. It may exist in one of two forms; the **primary** form, called the **EMANSIO MENSIIUM**; and the **secondary** form which is called **SUPPRESSIO MENSIIUM**. The primary form is found in cases in which the menses have never appeared although the patient is of the proper age, while the secondary form occurs in cases in which menstruation has once started but has ceased

from some cause or other. At certain periods there is a physiological amenorrhea, viz., during pregnancy, lactation, before puberty and after the menopause.

CAUSES. The **causes** of the primary form, or true amenorrhea, are the absence of the reproductive organs, and the failure of these organs to develop from their immature state which exists in infancy to the mature state found in maturity. **ABSENCE** of the ovaries and tubes; absence or **IMPERFECT DEVELOPMENT** of the uterus, or what is called an "INFANTILE UTERUS;" and absence or atresia of the vagina are the usual causes of the primary form.

An **IMPERFORATE HYMEN** prevents the external appearance of the menstrual flow and the case is regarded as one of amenorrhea, but it should be called **CONCEALED MENSTRUATION**.

Overwork at, or just preceding the time the menses should be established frequently prevents the development of the pelvic organs, causing amenorrhea; or it depletes the system, leaving the patient without enough blood to begin the menstrual flow. **Diseases**, especially of the debilitating class, occurring at this time also prevent menstruation in a similar way. **CHANGES IN CLIMATE** and environment frequently cause amenorrhea, as is seen in emigrants.

THE SECONDARY or suppressio mensium form of amenorrhea is due to a great many causes. This form includes the cases in which the flow has been stopped after puberty has been established, or suppressed after the menses have once begun.

Since the flow comes principally from the mucous membrane lining the Fallopian tubes and uterus, it follows, that anything causing a lack of blood to these parts, or producing a sudden contraction of the muscle fibers of the uterus, will cause a cessation of the flow. On account of the ovaries exerting a stimulus over

the other pelvic organs, and since they in reality control menstruation, any disease impairing their function will cause disordered menstruation, most commonly amenorrhea. **Lesions in the lower dorsal region**, affecting the ovaries, may cause amenorrhea. These lesions usually consist of a subluxated vertebra, or a STIFFENED CONDITION of the spine or a displaced lower rib, which shut off the NERVE FORCE to the ovaries that is necessary to the proper performance of their function, which condition results in the absence of ovulation and menstruation. The OVARIES may be inflamed, or some growths may have appeared on them such as a cyst or fibroid tumor. UTERINE DISPLACEMENTS displace the ovaries and interfere with their function. If this loss of function is complete enough, the influence of the ovaries over the uterus ceases and menstruation stops.

In the economy of nature there is not enough blood to carry on both the vital functions and menstruation. Since the BLOOD is used to CARRY ON THE VITAL FUNCTIONS, any debilitating disease that impairs its quality or lessens the quantity, if great enough, will cause amenorrhea. In such cases menstruation gradually ceases, that is, the flow becomes more scant each time until it stops completely. In order that there may be normal menstruation two things are necessary: GOOD BLOOD AND UNIMPAIRED NERVOUS ENERGY. Debilitating diseases impair the quality of the blood and VICE VERSA. No better illustration of this can be found than the prevalence of amenorrhea in tubercular patients; phthisis being most frequent. It is a POPULAR OPINION that if a girl ceases to menstruate, it is a foregone conclusion that she is going into consumption. As a rule every one that has tuberculosis has amenorrhea, but it does not necessarily follow that amenorrhea is a symptom of consumption. Anemia, chlorosis, malaria, syphilis and the strumous diathesis are dis-

eases and conditions that are accompanied or followed by amenorrhea. The ACUTE DISEASES also cause at least a temporary cessation of menstruation. This is most marked in the exanthemata. In short, any DISEASE or condition THAT IMPAIRS the QUALITY OF THE BLOOD tends to produce AMENORRHEA, and does in most cases, if the disease becomes chronic.

OVERWORK, such as hard study, draws the blood to the part that is used most and leaves the pelvic organs anemic, in this way causing amenorrhea. This often occurs in students, usually causing very little discomfort, and SHOULD NOT BE REGARDED AS IMPORTANT, since the menses usually recur as soon as the patient ceases to work.

Sudden cessation of the flow is due to getting wet, or to other forms of exposure, or it may be due to psychic causes such as the receipt of unexpected news, fright, grief, or extreme joy. The shock to a patient, when menstruating, caused by news of the death of a relative or friend is the most common of these causes. The writer has treated many such cases, in some of which, the melancholic type of insanity developed.

Any **injury** or accident which causes marked uterine contraction will stop the flow. A HARD, STIMULATING treatment applied to the lumbar region will in some cases, stop the normal flow; in others it will bring on the period. Then the question often arises, should we, or can we, stop the normal menses by treatment? In the first place we should not; and in the second place, it can be stopped if the treatment is so hard that it brings on severe uterine contraction. Menorrhagia can be controlled by this kind of treatment, which results in a temporary closing of the os uteri. The more nearly normal the case the less the effect of such treatments. Also there is a TENDENCY on the part of the organism to RESUME NORMAL ACTIVITY, hence the same

treatment given for opposite conditions often result in a relief or even cure. Lesions of the pelvic bones shutting off or diminishing the blood supply to the pelvic organs, will cause amenorrhea if the condition lasts for any length of time. The most common of these lesions is a forward slip of the ilium or backward slip of the sacrum. Most lesions of the pelvic bones have a direct effect on the uterus, that is, they cause a passive congestion of the uterus.

ACUTE FLEXION may cause amenorrhea, but more commonly causes dysmenorrhea. **Obesity** is often stated as a cause of amenorrhea in young girls, but I think that just the reverse of this condition exists, that is, obesity is the result of cessation of ovarian activity. The same condition takes place after the menopause whether the menopause is natural or acquired. Menstruation usually ceases before obesity occurs, or at least before it has existed very long. In OBESE PEOPLE the generative organs are not so fully developed as in those of a bony make-up. This also holds true in the male, the generative organs as stated above are usually found to be small in fleshy persons. The point is this, the obese are not so strong sexually and the ovaries in their weakened condition, do not exert the proper influence over the uterus, hence the disturbed menstruation or amenorrhea.

SYMPTOMS. The most easily recognizable, and the most important symptom is ABSENCE of the MENSTRUAL FLOW, yet not every case in which there is absence of the flow is one of pathological amenorrhea, although it happens during maturity. If this occurs in a girl who has passed the age at which the flow should have started but did not, it is the primary form. In some the symptoms may be insignificant, but in others there is frequently found **headaches** in the TOP OF THE HEAD, hot and cold flashes, sense of FULLNESS and PAIN in the ABDOMEN, nervous dis-

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orders and gastric disturbances. In some, there are all the symptoms of menstruation except the appearance of the discharge. LOOK AT THE PATIENT. Inspection often readily reveals the true condition. The complexion changes in color, pimples appear on the face, dark rings under the eyes, tenderness of the mammary glands, and there is a dull, achy feeling which is so commonly associated with menstruation. Such symptoms occurring at regular intervals make up the condition called *molimina*. In these cases *atresia* should be looked for, it being ascertained by a digital examination or by the use of a probe or sound. An imperforate hymen can be diagnosed by inspection. The external genitals are small, and the cervix long and pointed, indicating non-development, or the "infantile" type. The ovaries are small and the breasts rudimentary. Patients belonging to this class are anemic, have morbid appetites and are very bashful and listless.

The **secondary** form is characterized by the stopping of menstruation after its appearance at puberty. The symptoms are very slight in some cases, while in others they are marked, unless due to debilitating diseases. Not even *molimina* are found in most cases. These cases are anemic and weak, with loss of strength and ambition; functional heart troubles are frequent and the patient has palpitation and dyspnea on the least exertion. DIGESTION and NUTRITION are IMPAIRED, there being anorexia, flatulency, constipation and dyspepsia with its varied symptoms. SLEEP is not good and the patient is unrefreshed by it. Leucorrhea is increased in amount, and in some cases is supposed to take the place of the menstrual flow.

The **symptoms** of SUPPRESSIO MENSIIUM due to exposure or lesions are backache; headache, sense of fullness and weight in the pelvis, tingling and tenderness in the breasts; in short, the

patient has all symptoms of the flow without its appearance. These symptoms are exaggerated at the regular time for the menses and cause quite a great deal of discomfort and pain. In such cases the flow may be concealed, that is it may remain in the uterus for several months and then be discharged in the form of black clots and in great quantities. The writer recently had a case of this kind. The patient had missed six monthly periods and there was quite a marked enlargement of the abdomen. In getting a history of the case it was found that she had been in a similar condition several times previously, and with this and the absence of local and reflex symptoms, pregnancy was excluded. On examination the uterus was found enlarged and the os patulous. It was suspected that she had retention of the menses, that is a hemometra and possibly physometra, which later the case proved to be. In this case there were the symptoms of anemia, poor nutrition and a general loss of strength.

Another case of amenorrhea of a different character came to my notice. A young girl had missed two menstrual periods, but few menses were present. At the fourth menstrual period the uterus seemed to go into labor and after a while LARGE, FLESHY MASSES were expelled. The patient apparently recovered but the condition returned within a year with similar symptoms. After several months' treatment the case was cured, having been diagnosed as one of uterine mole. Ordinarily, moles result from a diseased condition of the chorion, hence complicate pregnancy, but in this case no history or indication of pregnancy could be obtained although it was undoubtedly a case of uterine mole. After the removal of the fleshy mass, the menses came on in normal manner and continued regular.

If the menses are SIMPLY delayed there will be HEADACHE, BACKACHE, with a general soreness and uncomfortable feeling.

The sudden suppression of the flow from exposure or emotional influences, gives rise to an acute congestion and inflammation of the uterus. The blood is forced back through the Fallopian tubes into the peritoneal cavity, and sets up a peritonitis. The patient has fever, extreme tenderness over the abdomen and intense pain. In other cases the symptoms are not so marked, there being only a general feeling of discomfort.

A sudden strain, slip or fall during menstruation, bringing on a stoppage of the flow, is followed by similar symptoms. The sudden suppression in such cases is due to contraction of the uterus, especially the cervix, which closes the opening of the blood vessels, and occludes the outlet of the uterus. In cases due to overwork, either physical or mental, the amenorrhea WILL COME ON GRADUALLY, with few, if any, SYMPTOMS REFERRED TO THE PELVIC ORGANS. The extra blood is used up in the development of the brain or muscles and little or none is left for menstruation. In such cases the onset is gradual and should cause no alarm.

DIAGNOSIS. The most IMPORTANT QUESTION pertaining to diagnosis is whether the amenorrhea is PHYSIOLOGICAL AND DUE TO PREGNANCY, either normal or ectopic, or PATHOLOGICAL and the result of disease. If it is physiological and due to pregnancy, the symptoms of pregnancy will be present. The most common of the EARLY INDICATIONS of pregnancy are morning nausea and vomiting, mammary changes in which the primary areolae form, followed by the secondary areolae, tingling of the breasts with progressive enlargement accompanied in many cases by secretion of milk; ptyalism, flattening followed by enlargement of the abdomen; softening of the cervix; change in position of the uterus, it at first becoming anteflexed or anteverted, followed by ascent; Hegar's sign; and the inverted jug shaped appearance of the uterus. If these symptoms are present in addi

tion to amenorrhea there is probably pregnancy, but a sure diagnosis can not be made until some of the POSITIVE signs of pregnancy are obtained. The sure signs of pregnancy are FETAL HEART beat, BALLOTTEMENT and QUICKENING, which signs can not be obtained with certainty before the twentieth week.

If amenorrhea is found, consider the age of the patient, also her occupation and habits. If above the age of forty, it may be the menopause approaching; or if the patient is a HARD MENTAL WORKER it is the result of using the blood for the development of the brain and leaving little or none for the menstrual function. In getting the history inquire as to the stoppage, whether sudden or after an exposure, fall or strain, or whether it came on gradually. Consider the appearance and nourishment of the patient, since it is so frequently associated with anemia and debilitating diseases.

In cases in which there are no symptoms or signs of menstruation occurring at stated or regular intervals, **physiological amenorrhea** exists, and the patient needs no treatment to bring on the flow, SUCH A TREATMENT BEING INJURIOUS RATHER THAN BENEFICIAL. On the other hand in cases of amenorrhea in which there is a **single sign or symptom** recurring at regular intervals, especially every fourth week, nature is attempting to establish the menstrual flow and such efforts should be aided. Such cases constitute **pathological amenorrhea** and the establishing of the regular menstrual flow will relieve all symptoms.

PROGNOSIS. The **prognosis** depends upon the general health of the patient, mode of onset and length of time the condition has existed. In a person otherwise healthy the prognosis is very good. If there is some debilitating disease it is not so good. If congenital, usually it is good unless there is absence of an organ; if due to atresia, stenosis or an imperforate hymen it is

favorable since an operation will remove the obstruction. Cases of acute SUPPRESSIO MENSUUM, in which the flow stopped before the third day, CAN BE RELIEVED, and the flow started, if treatment is given within twenty-four hours after the stoppage of the flow. I have had cases in which the flow had stopped on the first day, remaining absent five days, and was then brought on by osteopathic treatment, but as a rule it can not be started after it has stopped for so long a time.

TREATMENT. The treatment of amenorrhea due to an obstruction such as an atresia or an imperforate hymen is SURGICAL, an operation being necessary. In cases of non-development, treatment applied to the lesion which causes the trouble by shutting off the nerve supply to the organs, is beneficial and sometimes curative. These LESIONS are found from the eighth to the twelfth dorsal vertebra, in the lower lumbar region, sacrum and innominates. Freeing the nerves emanating from the spinal cord in the lower dorsal region, is very helpful. This can be accomplished by springing the spine, separating the vertebrae if they are grown together making the spine stiff, and by correcting the muscular lesions. I regard SPINAL LESIONS THE MOST IMPORTANT, since they affect ovarian activity and are the true causes of the disease.

In cases of amenorrhea due to constitutional diseases, do not try to bring on the flow by treatment applied to the pelvic organs. It will be useless, and again it does no good to bring on the menses, even harm being sometimes produced. Nature has tried to preserve all the blood possible by stopping the menstrual flow. The fault is not in the pelvic organs but in the amount and quality of the blood. If there is plenty of good pure blood and amenorrhea exists, then the fault may be in the generative organs and treatment should be directed to them, otherwise it

should not. Treatment should, as in all cases, be applied to the cause of the trouble. In this case INCREASE the quantity and IMPROVE the quality of the blood by giving the patient plenty of fresh air, outdoor exercise, a sufficient quantity of good nutritious food, and osteopathic treatment applied to the blood forming organs, such as the liver, spleen, etc. The ribs, if down, should be raised, since neurasthenia, anemia, etc., result from their displacement. In short, correct lesions affecting the abdominal organs. Drug physicians usually prescribe stimulants such as iron, quinine, strychnine and other inorganic poisons, yet Byron Robinson says "We have no known drug which will restore the flow." Do they nourish? No, there is no food in them. Do they increase the amount of nerve force in the body? No, they really weaken it by drawing on the reserve nerve force of the body. Then what do they do? They stimulate, and that is all. WHAT USE has the body for anything introduced into the stomach unless it counteracts a poison that may be there, or can be absorbed as a food? None, and the poor stomach is made to suffer the effects of strong inorganic drugs not only for the sake of various uterine troubles, but even diseases of more remote organs. Of all the drugs that do so much harm I regard the mineral or inorganic compounds the worst, since no nutrition is found in them and they actually destroy the lining membrane of the stomach. When I have a patient that requires iron I prescribe it, but in a different form. Fruits, especially those highly colored, such as blackberries and strawberries, abound in iron which is in an organic form and can be absorbed and used to build up the hemoglobin in the blood. Red apples eaten with the peelings on, are especially good, most of the iron being in the peeling. This is the best way to administer drugs, that is, in the form of a natural food. IT IS FAR MORE AGREEABLE TO THE PALATE AND BETTER FOR THE

STOMACH. In anemic and chlorotic patients suffering from menorrhœa, oxygen, good food and osteopathic treatments are all that are necessary in ordinary cases, which have not reached the incurable stage. The bowels should be regulated, and the other emunctories put in working order. Plenty of good water should be advised, since the body is composed so largely of water. Most people drink too little water, which is the cause of many kidney troubles as well as constipation.

The **treatment** to start menstruation, when suddenly stopped by exposure, should be applied to the lower lumbar and sacral regions. The uterus is contracted and by deep work over these regions its muscle fibers can be relaxed. In such cases bony lesions are not always found at first, but often occur later, on account of the constant tension exerted by the contracted muscles. In acute cases, muscular lesions are the most common, while in chronic cases the bony lesions are the cause. By removing the muscular lesions which have resulted from exposure, the uterus will relax and the flow start again unless it has been stopped for several days. The muscles are relaxed by removing the irritating factors, and by pressure over the muscle itself.

SCANTY MENSTRUATION is a relative term used to indicate that the amount of menstrual flow HAS BECOME LESS than that to which the individual has been accustomed. In some, the flow is naturally scant, there being only enough to stain the cloth. In such cases it is not pathological. But if the patient has, at her previous periods, passed the normal amount, and afterwards it became diminished, it is **PATHOLOGICAL** and needs treatment. If the condition is the result of impoverished blood the symptoms will be few or absent. If due to uterine displacement or contraction, the patient will suffer pelvic pains, weight in the pelvis, backache or pains in the joints of the lower limbs.

A general disturbance of circulation follows, as is evidenced by the COLD HANDS AND FEET. Uterine forms of headache and sense of tightness in the head follow. This is confined to the top of the head or the suboccipital region.

The **causes** are the same as for acquired amenorrhea, which has been considered. AMENORRHEA frequently commences in the form of scanty menstruation. Since the causes are very similar to those producing amenorrhea, the treatment will necessarily be very similar. INCREASE the amount of blood and improve its quality, as anemia is the principal condition which needs correction. After this has been accomplished treatment should be directed to the pelvic organs to better their blood supply. This is done by correcting lesions, both bony and muscular, that obstruct or impair the blood vessels supplying the uterus. If the uterus is in a state of contraction, such as is found in superinvolution, the menses are lessened in amount or are entirely absent. In such cases relax the uterine muscle fibers by an inhibitory treatment over the clitoris and the sacral region. If there is a tendency to scanty menstruation or amenorrhea a strong treatment during the menstrual period should be avoided. I have known cases of amenorrhea and retarded menstruation to start from a hard stimulating treatment given during the flow. For this and several other reasons, the physician should know whether or not the patient is in her monthly period when he is treating her if a spinal treatment is necessary.

MENORRHAGIA is a condition in which the MENSTRUAL FLOW OCCURS TOO OFTEN or becomes TOO PROFUSE. The increased loss may be due to a shortening of the intermenstrual period, this being the result of a prolonged flow; too frequent menstruation, such as occurs every two weeks; or to an increased amount at each menstrual period. MENORRHAGIA is a term often confound-

ed with metrorrhagia, which means non-menstrual uterine hemorrhage.

It is a common complaint and gives a great deal of alarm to the patient besides weakening her by excessive loss of blood. It, like scanty menstruation, is a relative term, since what would be MENORRHAGIA FOR ONE would be NORMAL for another. However, if the flow suddenly becomes more profuse than that to which the patient has been accustomed, or if the amount lost is clearly enough to keep the woman in a weakened condition and is a drain upon the system, from which she does not recover during the intermenstrual period, IT IS REGARDED AS MENORRHAGIA.

CAUSES. Menorrhagia is caused by: FIRST, a relaxed condition of the uterus; SECOND, a congested condition of the uterus; or, THIRD, it is due to some disease or condition which lessens the coagulability of the blood.

Bony lesions tend to affect the tonicity of the uterus by shutting off part of the nerve force. This causes the uterine muscle fibers to relax and the uterus to be filled with blood, hence the menorrhagia. This is one of the important causes, and the one for which the osteopath should at first look. Although the uterus is diseased or displaced, if CONTRACTION takes place HEMORRHAGE WILL CEASE, unless the blood is in such a condition that it fails to coagulate. As mentioned above, the middle muscular layer of the uterus is arranged like the figure eight, encircling and twining around and among the blood vessels. IF THESE fibers ARE RELAXED the blood vessels dilate and bleed freely; if contracted they act as ligatures which surround the vessels and prevent the escape of the blood. This is accomplished partly by the pressure of the contracting muscle fibers, and partly by the formation of an internal clot.

The MOST COMMON BONY lesion that I have found is a **back-**

ward twist of one innominate bone. The writer has treated cases of menorrhagia caused by lesion of one or both of these bones resulting from an improperly applied treatment given by a student, or even a physician, whereby the innominates were spread apart, or otherwise partially dislocated, resulting in a marked menorrhagia. In one case the patient was placed in the dorsal posture, each ilium was grasped and then forcibly separated, thus producing a lesion of one or both innominates. Judging by this and a great many similar cases, there is no doubt but that innominate lesions do produce menorrhagia.

The other lesions are; a tilted sacrum, spinal lesions, usually a slight curvature, and a twisting of the entire pelvis. The backward slip of one innominate is detected by a change in the direction and height of the crests, and an unnatural prominence of the posterior superior spine on the affected side. **TENDERNESS** will be found at its articulation and over the upper part of the course of the **sciatic** nerve. This tenderness in the sciatic nerve is indicative of pelvic congestion and is a common symptom in menorrhagia. The **length** of the **limb** may not be affected. If a simple backward rotation is found the limb is shortened, but very often this rotation is complicated by a downward slip of the innominate, hence the limb may be lengthened, shortened or not altered in length. The rule is, that if the limb is **SLIGHTLY LENGTHENED** and of **RECENT DATE**, it indicates hip trouble; if shortened, a slipped innominate, the most common being a backward rotation. These lesions cause not only a relaxation of the uterine muscle fibers, but also of the muscle fibers of the walls of the blood vessels. This produces a distention and congestion and is a general cause of menorrhagia. Metritis and endometritis are preceded and accompanied by congestion. In fact, all inflammatory conditions are preceded by a congestion. The extra amount of

blood escapes at the menstrual period, this being the safety valve by which the congestion is relieved.

A SUBINVOLUTED uterus is FULL OF BLOOD, enlarged, and is sometimes the seat of inflammation and the cause of menorrhagia. Laceration prevents contraction of the uterus, hence the congested condition. A GRANULAR erosion keeps the parts congested, causing a tendency to profuse menstruation. Since unhealed laceration of the cervix uteri is the most common cause of erosion, it should be looked to as the primary cause of congestion, hence the menorrhagia in such cases. Often there is EVERSION or ECTROPIUM, endometritis, granulations or sensitive papillae which bleed freely on irritation.

These uterine inflammations also excite GLANDULAR SECRETIONS, which form a large part of the DISCHARGE. Inflammation of the mucous surfaces at first diminishes the normal secretions, which afterwards become abnormal in quality and increased in amount. This weakens the system almost as much as the loss of blood.

EXTRA-UTERINE inflammation affecting the ovaries, or oophoritis and salpingitis lead to pelvic congestion and an increased flow. If the inflammation impairs the function of the ovaries to any great extent there is a tendency to amenorrhea.

Uterine displacements cause congestion, resulting in menorrhagia if the congestion is marked. The most prevalent form of displacement producing menorrhagia is RETROVERSION, although it may follow any form if there is much congestion. FIBROID tumors cause menorrhagia, the degree depending upon the location of the tumor with reference to the uterine wall. A subperitoneal fibroid causes the mildest form, the submucous variety the most profuse. **Polypi** or other fungosities in the uterus almost invariably produce menorrhagia. The profuseness of

the flow is by no means in proportion to the size of the intra-uterine growth, since small polypi often act as potently as large tumors. The menorrhagia is in such cases determined by the amount of congestion of the mucous membrane. About the first symptom of the presence of a fibroid tumor or a fungosity is menorrhagia; this is due to the congestion which accompanies the tumor. The hemorrhage does not at first come from the tumor itself but from the congested endometrium. This is also true of malignant tumors appearing before the menopause. In such cases the hemorrhage is bright in color and comes in gushes. The arteries are eroded by the progress of the disease and, since the parts are more congested at the menstrual period than at other times, the HEMORRHAGE IS MORE MARKED at that time. This often results in an irregular uterine hemorrhage called metrorrhagia.

Foreign bodies such as retained pessaries, sponges and tents set up a congestion which is frequently followed by a profuse menstruation. This is also found in an **incomplete abortion**, or retention of secundines after normal labor, but in such cases the hemorrhage is rather of the form of a metrorrhagia. Organic heart disease produces a passive congestion of the uterus. This is sometimes followed by a profuse menstruation, but this does not necessarily follow.

Enteroptosis, or any obstruction which produces a passive congestion will also produce menorrhagia, so that the causes given under congestion of the uterus may be regarded as causes of profuse menstruation. The first two causes mentioned are usually associated. A congested uterus implies one in which the walls are relaxed.

EXCITEMENT, over-exertion, exposure or a **hard spinal treatment** at, or just prior to, the period, often produces a marked increase in the amount of the discharge.

Membranous dysmenorrhea is accompanied by flooding. This occurs at the time of, or immediately after expulsion of the membrane, and lasts from a few hours to a day or more. It weakens the patient to a marked extent, as arterial blood is lost in abundance.

The third cause mentioned is that of some BLOOD disease in which its coagulability is affected. Any **debilitating** disease in its early stages, on account of the thin condition of the blood, may produce menorrhagia, before the onset of amenorrhea, which occurs after the disease has become chronic and the quantity of blood lessened. A debilitated condition of the whole system is usually accompanied by amenorrhea, but occasionally the opposite is true. These causes are frequently found in young girls who, at the age of puberty, have grown rapidly, developed too early, or suffer from anemia or some other weakening disease in which the coagulability of the blood is affected. MENSTRUATION comes on IRREGULARLY or too frequently, occurring every second or third week. SEXUAL EXCITEMENT, just prior to puberty, often deranges the menses, producing copious menstruation, probably on account of the increased activity of the ovaries. Excessive venery frequently provokes ovarian and uterine congestion which, after a while, become pathological and are followed by menorrhagia. During lactation the menses sometimes become too free if there is an excessive drain of milk, or if coitus is begun too soon after parturition. In the early stages of phthisis the menses are usually profuse, but afterwards diminish as the disease progresses.

SYMPTOMS. Menorrhagia may occur in three forms: FIRST, a shortening of the intermenstrual period, that is, the flow is prolonged more than six days; SECOND, an excessive amount of the flow at the period; and THIRD, menstruation occurring every two or three weeks.

The **local symptoms** would be a too profuse, frequent or prolonged flow. The **COLOR** of the discharge is usually of a brighter red than normal, indicating an admixture of arterial blood, or it may be venous in character and intermingled with mucous secretions. If the loss of blood is very great it produces anemia, pallor of the lips and ears, and a **RAPID WEAK PULSE** which is easily excited. There may be weakness, faintness, a clammy skin, backache and a general neurasthenic condition. If a patient is anemic, weak and tires readily on the least exertion it indicates a lack of good blood. This may arise from the loss of blood in menorrhagia, or it may be due to a **LACK OF BLOOD FORMATION** and as a consequence in such cases amenorrhea, instead of menorrhagia is the menstrual disturbance. The color of the blood should be noticed; **ARTERIAL HEMORRHAGE FROM ANY PART OF THE BODY AT ANY TIME BEING ABNORMAL**. Such hemorrhages very rapidly weaken the patient. If the discharge is venous in character it is not so alarming.

DIAGNOSIS. Sometimes it is very hard to tell whether the hemorrhage is the result of menstruation or comes from a tumor, or some other condition such as an abortion, which might cause an irregular discharge of blood. If the flow is **SIMPLY AN INCREASE IN AMOUNT OF THE MENSES** the **MOLIMINA** will be present and the flow be very near the normal as to color and odor. If the **RESULT OF AN ABORTION**, the diagnosis is based on the **CONDITION** of the mammary glands, there being present the early mammary signs of pregnancy also the secretion of milk coupled with enlargement of the breasts, expulsion of the embryo or fetus with its membranes, no history of previous attacks, and the **CHANGE** through which the flow passes, it becoming lighter from day to day until it is watery in appearance by the time it ceases. The other early signs and symptoms of pregnancy can be ascertained in some cases, this assisting the diagnosis.

If the hemorrhage is due to fibroid tumor or cancer, the history of the case, the presence of the tumor, in short, the diagnostic indications of the enlargement are present, therefore the diagnosis is based on locating the enlargement and noting its character.

The hemorrhage may be so irregular that the patient cannot tell which is the normal time. If it is the menstrual time, other symptoms of menstruation will be present, such as tenderness in the breast, increased pallor of the complexion, herpes, a more severe headache and backache and a general weakness.

Before deciding that the case is one of profuse menstruation ascertain the normal amount for that individual and note the secondary anemic symptoms. If the loss of blood, EVEN THOUGH IT BE GREAT, causes none of the reflex symptoms mentioned, it is not pathological and does not need treatment. If molimina accompany the discharge of blood, it is a MENORRHAGIA if the amount is excessive.

TREATMENT. The treatment should be applied to the cause of the trouble, since menorrhagia is only a symptom. The first thing to do in marked cases is to place the patient in bed with the feet higher than the head and keep her quiet, both PHYSICALLY and MENTALLY. Make the environment as cheerful and quiet as possible; do not allow visitors; relieve the patient of any anxiety, for worry and excitement make the condition much harder to cure; keep her in bed, or at least off her feet, so long as the hemorrhage continues, for the erect posture, and especially walking tends to congest the uterus.

Those cases due to the first mentioned cause, a relaxed condition of the uterus, can be cured by producing contraction of the uterus, this being accomplished by CORRECTING THE LESIONS which prevent contraction. If the nerves going to the uterus

can be stimulated the uterus will certainly contract. Bony as well as muscular lesions inhibit the nerves going to the uterus, hence their contraction would result in a stimulation of all those nerves. Contraction can be temporarily accomplished by strong manipulation over the lumbar and sacral regions, by deep circular massage over the uterus, or by producing a sudden shock or stimulation by the application of something hot or cold to the abdomen. A slap on the abdomen with the cold hand, or a quick jerk of the hair on the mons Veneris is resorted to in cases of profuse hemorrhage in which an immediate contraction of the uterus is wanted. Sometimes a sudden, but thorough spanking of the buttocks is the best treatment that can be given to get a quick result. The shock, it being unexpected by the patient, produces a contraction of the uterus, that will stop any hemorrhage if the contraction is great enough to ligate the blood vessels. It may not always be policy to give such a treatment, but necessity may demand it. This causes retraction as well as contraction of the uterus.

ABORTIONS can sometimes be stopped in a similar way, this causing contraction of the cervix. If the uterus can not be made to contract by the above treatment, resort is made to TAMPONING the vagina. This often causes a clot to form, after which the hemorrhage ceases. The best tampon to use is the chain tampon, that is several small tampons tied together, enough being used to completely fill the vagina if hemorrhage is marked. If some astringent, such as witch hazel is used there will be a quicker effect. This particular astringent I believe is best since it is soothing and healing, and is especially good if inflammation is present. Some advise the use of alum, others tannin. Such treatments are only palliative. They do not remove the cause of the trouble, hence do not cure. Local va-

ginal treatments are indicated in some cases, particularly in those due to trauma resulting in uterine displacement. More than usual care should be exercised in giving a local treatment while the menses are on, as infection or inflammation may follow.

In cases of fungosities of the uterus, surgeons advise the use of the sharp uterine curette. The polypi are thus removed and occasionally the patient is benefited. The osteopath is seldom warranted in using such radical measures; relying for a cure on removal of the cause of the disturbance. The polypus, if protruding beyond the external os, can and ought to be removed.

IN PARTIAL INVERSION of the uterus, the indentation should be removed by use of a large blunt sound. Such cases occur in patients recovering from parturition, in the very weak and atonic, and often at the menopause.

IN FIBROID TUMORS in which the menorrhagia is marked, little can be done until the growth of the tumor is checked, which often takes several months. In the meantime resort is made to rest in bed and, in bad cases, the use of some astringent.

If the menorrhagia is the result of congestion and inflammation of the uterus, it should be treated as outlined under the head of metritis and endometritis. If the quality of the blood is impaired treatment should be directed to the blood forming organs. Anything which improves the general health is beneficial in the treatment of this form of menorrhagia. For PERMANENT RELIEF AND CURE, REMOVE THE LESIONS, correct the DISPLACEMENTS of the uterus and build up the QUALITY OF THE BLOOD.

DYSMENORRHEA is a term used to denote **pain**, preceding, accompanying or following the menstrual discharge, and which is dependent on a disturbance of the menstrual function. This includes pain referred to the pelvic organs which occurs at any

time during the menstrual process, dating from the rupture of the Graafian follicle and ending with the completion of the discharge. This, like the other menstrual disorders, is ONLY SYMPTOMATIC, indicating some disease or abnormality of the organs which take part in the menstrual process.

It is the MOST COMMON OF ALL THE MENSTRUAL DISORDERS and one that almost every woman experiences either in the chronic or acute form. In fact, pain at the sick time is so common that it is regarded by most women as a NECESSARY ACCOMPANIMENT of menstruation. Theoretically normal menstruation is painless, free from clots and causes little inconvenience.

Dysmenorrhea VARIES IN DEGREE from a FEW PAINS, which do not interfere with the patient's occupation, TO A COMPLETE PROSTRATION which keeps her in bed for some days. In some cases one attack is scarcely over before another is ready to commence. Some women are more sensitive to pain than others and exaggerate the pain felt, thus making it hard to estimate the amount of real pain from the description given by the patient.

PAIN is a sensation which is distressing or agonizing. It is the result of irritation of a sensory nerve or nerves and the conveyance of the impulse to the sensorium, which refers it back to the periphery of the sensory nerve involved. In this way it is possible for the pain to be referred to a part not diseased, if connected with the nerve stimulated, in which it is a case of mistaken identity on the part of the sensorium. Pain is, in reality, in the sensorium. ALL PAINS ARE REFERRED to their SUPPOSED sources, that is, to the point at which the stimulus is supposed to be. In cases of visceral irritation or disease the impulses generated are carried to the spinal cord, thence up the posterior columns to the sensorium, and on account of the LOW DEGREE OF SENSIBILITY of the viscera, the pain is referred to the cerebro-spinal

nerves in close central connection. This seems to be a wise provision on the part of nature FOR THE PURPOSE OF PROTECTION, the BODY BEING GUARDED BY SENSORY NERVES which act as "LIVE WIRES," thus warning the organism of a threatened or real danger. Head's law which offers a very good explanation of referred pain is as follows: "When a painful stimulus is applied to a part of low sensibility in close central connection with an area of much greater sensibility, the pain produced is felt in the part of higher sensibility rather than in the part to which the stimulus was applied, unless the stimulus is very great or long continued." To be more explicit or rather to apply it to dysmenorrhea, a **painful stimulus applied to the uterus** will cause **pain** in the **abdominal wall** OVER THE UTERUS.

This SENSORY IRRITATION is, in most cases of dysmenorrhea, the result of **pressure**. The pressure may be of various kinds, but BLOOD PRESSURE and PRESSURE FROM MUSCULAR CONTRACTION, are the most common. This disturbs the nutrition of the nerve or even affects the nerve substance itself. The degree of pain depends upon the degree of pressure and starvation of the nerve. In one case there is sharp pain, in another a dull, radiating or labor-like pain, and may be constant or intermittent. It may become intense just before, or just after the flow begins, or it may continue while the flow is on. The seat of the pain may be in the ovary, peritoneum, tubes or uterus, but it may be referred to the back, side, abdomen or limbs.

VARIETIES of dysmenorrhea depend upon the organs involved and how they are affected. It is usually divided into three types: FIRST, the ovarian type, in which the **pain precedes the flow** and is referred to the ovary; SECOND, the obstructive type; and THIRD, the inflammatory. Usually these types are not distinct but are combined, one running into the other. The ob-

structive and inflammatory forms most commonly go together.

From the history of the case, the variety can be ascertained. If the pain precedes the flow from four to eight days it belongs to the **OVARIAN** type; if it immediately precedes the flow and is relieved by the starting of the flow, it is the obstructive form and probably due to a flexion. If the pain continues throughout the period, it is due to **INFLAMMATION**; if it precedes and also accompanies the flow it belongs to both the obstructive and inflammatory type, such as is found in flexion accompanied by an endometritis.

CAUSES. At each menstrual period the **PELVIC ORGANS** BECOME CONGESTED. Any diseased condition of these organs tends to increase the congestion, and if the inflammatory stage is reached, painful menstruation follows. The **ovaries** share in this congestion or they may be separately diseased. It is conceded by most writers that the ovaries congest, the Graafian follicles swell and rupture and that the ovum escapes a few days prior to the beginning of the menstrual flow. If this process is hindered or impaired it is liable to terminate in pain. In some cases, the rupture of a follicle is hindered by the toughness of the tunic or covering of the ovary. Inflammation of the ovary, called ovaritis, causes pain on account of the markedly increased congestion at that time. The congestion increases the pressure, hence the pain. As soon as the follicle ruptures the congestion is relieved and the pressure decreased.

Lesions in the lower dorsal region affect the ovary and produce pathological congestion. In chronic cases, these lesions are bony, but in acute cases usually muscular. A case in point might be cited. A young woman, aged sixteen, was taken with a severe pain in the side and back about three days prior to the time at which the flow was expected to begin. On examination

the muscles over the lower dorsal region were very much contracted. By relaxing these muscles the pain was stopped within a short time. This is the cause of OVARIAN COLIC or "CRAMPS" which is so common. As mentioned before, always look for muscular lesions in acute, and bony lesions in chronic cases.

Inflammatory conditions of the structures around the ovaries also impair their function and produce this form of dysmenorrhea. Salpingitis and perimetritis are the most common of these inflammatory conditions around the ovary. The broad ligaments are frequently found inflamed, resulting in their contraction and from this a disturbance of the ovary.

The **obstructive** form of dysmenorrhea is the type attributed to a mechanical obstruction of the uterine canal. Although this is mentioned by some writers as an important cause, I think it is not so important as some other causes, especially the inflammatory conditions. Since the blood is able to pass through even a capillary, there must be a very marked and complete obstruction of the uterine canal to prevent the exit of blood.

Amputation of the cervix, trachelorrhaphy, or any operation on or injury of the cervix, usually results in the formation of cicatricial tissue, which produces dysmenorrhea. In such cases there is an obstruction caused by the scar tissue plus an interference with the expellant power of the uterus.

The **OBSTRUCTIVE** form is rarely found alone, being most frequently associated with inflammation, such as endometritis. The flexions, especially **anteflexion**, are cited as the most typical and most common causes of obstructive dysmenorrhea. The uterine walls collapse at the point of flexion, which condition not only obstructs the uterine canal, but also the **BLOOD VESSELS**, so that when the menstrual blood passes into the cavity

of the uterus, it meets with this obstacle and stops. On account of this retention there is COAGULATION and the presence of the clots excites the uterine contractions which cause the pain. The pain, however, will be insignificant unless there is a co-existing inflammation. This form is most commonly found in the young but sometimes occurs in multiparae. Stenosis of the os may occur from other causes, such as cicatrization resulting from inflammation. If this occurs at the internal os, it very readily impinges on the cervical canal causing a narrowing at that point. The tissues in the region of the internal os may thicken and become rigid.

EROSION of the cervix is productive of dysmenorrhea since, in most cases, **papillae** form around the os and become very sensitive, and the pressure caused by the menstrual discharge results in contraction of the circular muscle fibers in the cervix thus CLOSING the os and partly or completely stopping the flow. A very slight exciting cause, such as catching cold, overwork or emotional disturbances, will cause contraction of the cervix. In such cases the cervix, on digital examination, has a soft velvety feeling, although in some cases the papillae can be outlined. On examination with a speculum the tissues around the external os are red in appearance.

There may be a UTERINE POLYPUS which acts like a ball valve, thereby preventing the exit of the flow. The MUCOUS MEMBRANE becomes congested and in this way produces a narrowing of the canal. The circular muscle fibers of the cervix are often found contracted as a result of the irritation, leading to a stenosis of the os.

Lesions which cause a stimulation of the nerves going to these parts may excite uterine contraction, the most common lesions being those affecting the pelvic bones, principally the in-

nominates. Sudden fright or shock causes contraction of this part of the uterus and results in stopping the flow and clots soon form which excite pain upon their expulsion. If the entire uterus relaxes suddenly, the flow will be brought on, this being the case in a sudden fright or excitement.

The condition of **infantile uterus** is frequently the cause of dysmennorrhea, in fact painful menstruation is found IN EVERY TYPICAL case of infantile uterus. The CERVIX IS SMALL, elongated, softened and conical and the canal running through it is almost obliterated. It relaxes with difficulty and a great deal of pressure from behind is necessary to force anything through the canal. The pressure is produced by uterine contraction, and uterine contraction, if abnormally hard, is always attended by pain, hence the pain in this form of dysmenorrhea.

This kind of dysmenorrhea dates from puberty as a rule, and the pain is confined to a FEW DAYS just prior to the menstrual flow, the patient being COMPARATIVELY well during the intermenstrual period.

Faulty development is back of nearly all of the obstructive types of dysmenorrhea which occur in nulliparae. Even normal congestion preceding and accompanying menstruation is attended by suffering, since there is a lack of provision for normal expansion. "The organ is imperfect and unripe and, like the nut which casts its hull at maturity, it clings to its decidua most tenaciously before that period." The BLOOD VESSELS SEEM SMALL AND INCAPABLE OF CONTAINING THE PROPER AMOUNT OF BLOOD NECESSARY TO NORMAL MENSTRUATION without marked increase in intravascular pressure even to the painful degree.

The unripe endometrium prevents what there is from escaping into the uterine cavity, causing pressure and consequent pain. Schultze says: "During the time that the pains of dys-

menorrhœa are most violent, pains which according to theory, depend on the retention of blood in the cavity of the uterus, the sound may be passed over and over again as far as the fundus without a single drop of blood following its removal, indeed without a single drop of blood leaving the uterus for hours or even days afterwards, though the passage is thus proved to be free." The writer has many times confirmed the above statement, thus proving that the BLOOD IS IN THE UTERINE WALL, at least NOT IN THE CAVITY. In such cases if the nerves are already hypersensitive from a lesion, spinal cord disease or any other cause, the pain is the more marked as a result of the uterine contractions, the uterus going into hard labor in its efforts to expel an imaginary object.

From this it can be seen how marriage and maternity cure dysmenorrhœa due to faulty development. Coitus and pregnancy develop the uterus, and parturition removes all obstructions. In case of infantile uterus, it generally requires several years of married life to develop it to such a degree that impregnation is possible, hence the many cases of sterility for several years after marriage. After parturition, the endometrium becomes normal, that is, a new mucous membrane develops which is not thickened, hypersensitive or diseased as was the former.

The longer congestion continues without hemorrhage taking place, the more violent and distressing the tenesmus becomes. The starting of the flow, if especially free, relieves the intravascular pressure and the contractions diminish. In other types of obstructive dysmenorrhœa, that is, the forms in which the menstrual flow reaches and accumulates in the uterine cavity, there is some disturbance of the expellant forces of the uterus. Either the fundus does not contract hard enough, or the cervix contracts too much; at least polarity is deranged. **Polarity** is that

peculiarity of contraction of the uterus, occurring in labor and menstruation, in which the fundus and cervix act in opposite ways, viz: when the fundus contracts the os dilates.

The **inflammatory** causes are the most common and important. As mentioned above, there is a **PHYSIOLOGICAL CONGESTION** of all the pelvic organs at the menstrual period which should disappear after menstruation. If there is a weakness or disease the congestion does not entirely disappear. **DISPLACEMENTS** of the uterus, lesions along the lower part of the spine and pelvic bones, lack of care at the menstrual period, occupations in which the patient is on her feet a great deal, and mode of dress all tend to increase this congestion, which leads to inflammation. in the form of a metritis or endometritis. Chronic metritis affects the entire uterine wall. The muscle fibers are then affected, hence the **uterine contraction** is necessarily attended by pain. The blood forms into clots and the canal is lessened, both of which are conducive to dysmenorrhea. Congestion precedes and accompanies the metritis, the uterus is enlarged and the **PRESSURE** upon the **SENSORY** nerves is **INCREASED**. In active congestion there is a painful, throbbing sensation at each beat of the heart. This is the result of increased pressure at each ventricular contraction.

Endometritis is probably one of the most common of uterine diseases. It is rare to get a tumor, displacement, or any disease or abnormal condition without some co-existing inflammation of the endometrium. This mucous membrane thickens and inflames more at the menstrual period than at any other time as a result of the general pelvic congestion. This favors hemorrhage and coagulation of the blood. When uterine contractions begin, and they are present in normal menstruation, the uterus is contracting over and around the inflamed surface.

It is, as mentioned before, like gripping something with the hand when the palm is inflamed and sore. It certainly excites pain. The walls of the uterine cavity are tender, congested and inflamed and any contraction produces pain. Now, if there is any obstruction as from a narrowing of the internal os, flexion or contraction of the cervix, the pain is increased in proportion to the degree of the obstruction.

There is a form of painful menstruation, the result of congestion and inflammation of the endometrium, called **membranous dysmenorrhea**. It consists of an exfoliation of the endometrium and its expulsion *EN MASSE* at the menstrual period. See Fig. 102. A stripping off and expulsion of this membrane



FIG. 102.—A dysmenorrheal membrane laid open. (Coste.)

through a small opening is attended by intermittent pains very similar to, and even worse than those of labor. This is a severe and chronic form of dysmenorrhea and one supposed by the medical profession to be the hardest type of menstrual disorder to

cure, in fact it is regarded as incurable, but osteopathic treatment seldom fails in such cases.

Back of these congestive and inflammatory conditions, **bony lesions** are sought for in chronic cases, and upon their correction depends the cure. Osteopathy corrects these; that is why we cure when other METHODS fail.

Inflammation of the structures around the uterus is frequently found as a cause of dysmenorrhea. This leads to ovarian inflammation and salpingitis, and each menstrual period increases the pain on account of the extra congestion at that time. **MALFORMATION**, such as atresia, causes retention of the normal flow and finally there is painful distention .

Some cases are due to constitutional causes, such as **GOUT** and **RHEUMATISM**. There may be a neurosis, such as neurasthenia or hysteria, which makes menstruation painful. Some writers have mentioned a neuralgic type of dysmenorrhea. This is usually found in nulliparae. The os internum is in a state of hyperesthesia, which may be due to a fissured or **INFLAMED CONDITION** of the part which, like anal fissure, causes contraction. In some cases there is a cutaneous hyperesthesia of a neuralgic character varying in time, duration and intensity. The nasal type of dysmenorrhea has been noted by the author in a few cases. The mucous membrane lining the nasal fossa is hypersensitive. A local anesthetic such as cocaine, will relieve when applied to the nose.

Sudden stoppage of the flow is followed by pain of a bearing down character. In such cases there is a contraction of the cervix which produces a stenosis of the os. This is called the **SPASMODIC** form of dysmenorrhea. The retained blood undergoes coagulation, and the expulsion of the clot is similar to the expulsion of a fetus. In such cases there is **CONSIDERABLE PAIN** at

the NEXT REGULAR period. OVERWORK and EXPOSURE AT ONE MENSTRUAL PERIOD INVARIABLY PRODUCE AN INTERFERENCE WITH THE NEXT. Delayed menstruation causes increased congestion of the uterus, absorption of some of the menstrual flow and the formation of clots, this causing pain when the menses finally appear.

SYMPTOMS. The **symptoms** of dysmenorrhea are **pains**, both local and reflex, of every possible kind as to time, duration, severity and location. The pain preceding menstruation is called ovarian colic or cramp. The congestion of the ovary causes increased pressure on the nerve terminals. The patient refers to the pain as in the stomach, but on closer inquiry and by having her place her hand on the exact spot it is found to be in the ovary, instead of in the stomach. A great many people either do not know where the stomach is, or they try to mislead you by telling you the pain is in the stomach when in reality it is in the pelvic cavity or abdominal wall in relation with the uterus or ovaries. The pain may be referred to the back, lower dorsal region, or the side. Be careful to diagnose ovarian pain from appendicitis, renal calculi, biliary colic, and from a dislocated rib causing pressure on an intercostal nerve.

The MUSCLES over the ovary and lower dorsal region will be found contracted. If the pain precedes the flow and is relieved by its appearance, it is of the obstructive type. The pain is usually in the form of labor pain, that is intermittent and spasmodic, which in reality it is, since there are uterine contractions. The uterus is trying to overcome an obstruction by increased contraction. In neurotic types the pains increase from time to time. In some there is nausea and vomiting, intense headache and neuralgic pains in various parts of the body.

The other pelvic viscera are affected. Often there is a limpid

condition of the urine; the breasts become swollen and tender; there is an achy, dull, heavy, tired feeling in the lower limbs and back. Nervous prostration follows and the patient is confined to her bed for days or even weeks. The muscles of the back and abdomen are tender, in short, there is a general tenderness over the entire abdomen and the pain persists as long as there is any discharge to be expelled.

DIAGNOSIS. When I am called to see a case of dysmenorrhea I usually ask FIRST, when the pain commenced with reference to the beginning of the flow, the character and location of the pain, what caused it and how long it has lasted. If the pain precedes the flow by a few days it indicates ovarian trouble. Likewise the other forms may be partially diagnosed by the time of appearance of the pain. In this way I am able to judge whether the trouble is ovarian or uterine, local or general, acute or chronic, and whether it is due to muscular or bony lesions, a displacement or an inflammatory condition of the uterus.

Ovarian colic is often closely simulated by a displaced RIB OR RIBS; in fact, this displacement often produces acute ovarian colic, hence the ribs should be examined very carefully for any deviation from the normal, or for tender spots. In biliary calculi the other symptoms are present, such as jaundice, pain high up on the right side, constipation, and it is not associated with the menstrual period. **RENAL CALCULI** can be diagnosed by the location of the pain, it following the course of the ureter and terminating in the vulva or inside the limb, urinary disturbances, such as frequent micturition, hematuria, lessening of the amount of secretion of urine, and tenderness over the kidney and ureter on the affected side. The **MEMBRANOUS** form of dysmenorrhea is diagnosed from abortion by placing the membranous discharge in clear water. After the blood clots have been washed out, no

embryo can be found. The membrane has a shredded appearance and floats in the water. Again, in membranous dysmenorrhea, there are absent the usual signs of pregnancy which are found in pregnant women prior to the second month.

In diagnosing the different forms of dysmenorrhea keep in mind which factors of menstruation are involved. If the ovaries are diseased their function is altered and pathological congestion results; if there is a cystic degeneration ovulation is affected. If the uterus is inflamed or a flexion exists the expellant forces of the uterus are involved. Hence, by recalling the **factors necessary** to menstruation, namely: OVARIAN CONGESTION (physiological) and ACTIVITY, UTERINE CONGESTION and CONTRACTION, a fluid to be EXPELLED and an UNOBSTRUCTED PASSAGEWAY, the particular cause can be ascertained.

TREATMENT. The **treatment** of dysmenorrhea resolves itself into the removal of the cause producing it, since it, like the other menstrual disorders, is only a symptom and not a disease. If of the ovarian type, correct the lesions that affect the ovarian center. If a lower rib is pressing on an intercostal nerve, and this is a very common cause, correct it and relax the muscles holding it in malposition; the quadratus lumborum being the one commonly at fault. If the rib or vertebral lesion affects the circulation of blood to and from the ovarian center, a correction is imperative if a cure is expected. If the ovaries are drawn down by a displaced uterus, correct the displacement. In ovarian colic relax the contracted muscles over the lower dorsal region and give a deep, gentle treatment above, around and over the congested ovary.

By drawing UP THE INTESTINES, thus releasing the obstructions to the venous return, the colic or neuralgia can be relieved. If a chronic case, the bony lesions must be corrected or the above

treatments will give only temporary relief. In conditions of ante-flexion of the uterus producing the obstructive form, work deeply just above the pubic bone, following the course of the veins. The uterus may be straightened by placing the patient in the dorsal position, having the hips elevated if possible, and giving an upward manipulation over the uterus. Nature is trying to straighten the canal by contraction, and sometimes very little assistance is sufficient to overcome the obstruction. The uterus may straighten of its own accord, but it takes some time and the process is very painful. A local treatment should not be resorted to unless the efforts to correct it by external treatment have failed; then, if the patient is suffering, a local treatment should be given.

CONTRACTION of the cervix from stimulation of its nerve supply can be relieved by a treatment applied to the lower dorsal and lumbar regions and inhibition over the clitoris. The sacro-iliac synchondrosis is the most effective point. I have taken cases of painful contraction of the uterus in which there was extreme cramping and relieved them almost immediately by inhibiting at these points. The INHIBITION IS BEST ACCOMPLISHED by correcting the SLIGHT DEVIATION FOUND IN THIS joint. Pressure against it, with some rotation of the innominate, relieves or releases the disturbed nerve. It requires about fifteen minutes to relieve the cramps in an ordinary case. The muscles at that point are contracted and very tender, and I regard the tender spot the point at which treatment should be given. If these cramps are due to a slight delay in menstruation a strong stimulating treatment in the lower lumbar region is usually sufficient to start the flow, thereby relieving the cramp.

MEMBRANOUS DYSMENORRHEA can be cured by correcting the disturbances of the uterine circulation. This is accomplished

ed by correcting the bony lesions which are always found in this form of dysmenorrhea, and by deep treatment over the uterus to relieve the congestion. The writer treated a case in which the entire endometrium was cast off *EN MASSE*. It was a pear shaped body with two horns corresponding to the entrance of the Fallopian tubes into the uterine cavity. This case was cured by a strong stimulation along the lower part of the back, thereby restoring mobility to the stiffened vertebral articulations. One recent writer suggests that membranous dysmenorrhea is due to a "condition of widespread venous thrombosis in the vessels of the expelled mucous membrane. This makes its separation by a process of dissecting hemorrhage easy to understand." Granting this to be true, the treatment would not be changed from that outlined above. The vaso-motor centers are impaired by the bony lesions which must be corrected if a cure is obtained.

The use of the *CURETTE* is usually resorted to by physicians to remove this diseased endometrium, but as mentioned before, I cannot see how a healthy endometrium will form if *THE NUTRITION WERE NOT SUFFICIENT* in the first place to prevent the diseased condition. If the cause of malnutrition were removed, then probably the theory would be right. I have seen a great many cases of this form of dysmenorrhea in which the uterus had been curetted and not one of them was benefited, much less cured.

In inflammatory forms of dysmenorrhea hot applications and douches are usually advocated, but they give only temporary relief and their constant use weakens and lowers the vitality of the uterus and vaginal walls. Where there is extreme pain they may be resorted to if the case can not be otherwise relieved. Hot drinks are beneficial as they alter the blood and produce changes that are helpful.

Stenosis of the cervix is treated by the introduction of a uterine dilator and forcibly dilating the os. I would not like to say that this is never indicated, for it may be in some cases, but these cases are few and far between. If scar tissue has formed around the os thus lessening its lumen, the dilator should be used to stretch it. This operation of dilatation is very painful,

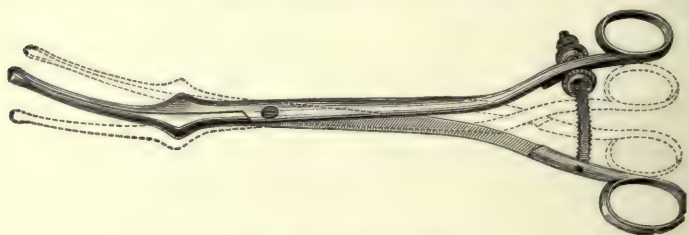


FIG. 103 —Uterine dilator

injures the cervix, gives only temporary relief, and must be performed at each menstrual period. Inhibition of the clitoris has a temporary effect in that it relieves the pain for a short while. Treatment applied to the fourth and fifth lumbar and the sacrum has a permanent effect by releasing the nerve force which is interfered with usually at these points. Since most cases are due to inflammation, treatment should be applied to correct the causes of the inflammatory condition. These causes are in the main, bony and muscular lesions and uterine displacements, although other causes are sometimes found.

VICARIOUS MENSTRUATION is a form of menstrual disorder in which the menstrual flow or hemorrhage during menstruation comes from a part other than the uterus. This may entirely take the place of normal menstruation or it may supplement it, this being the more common. It is a rare and peculiar condition, and illustrates the fact that menstruation is not a local process, but systemic in character.

The HEMORRHAGE may occur from almost any **mucous** membrane of the body, usually from the NOSE, tonsil, throat, gums, stomach, lungs, bowels and breast, or from any superficial ulcer or abrasion of the skin.

Diarrhea frequently accompanies menstruation. In the vicarious type, this is sometimes very marked and is of a serous, bloody character. LEUCORRHEA is markedly increased and may entirely take the place of the normal flow. The writer treated a case in which the hemorrhage came from the gums. The face became spotted, teeth ached, head was congested and finally the patient experienced relief only when the menstrual flow was properly established.

SYMPTOMS. The hemorrhage occurs at the time of the menstrual period and is accompanied by the USUAL SYMPTOMS OF MENSTRUATION. If there is no uterine discharge, molimina are present. There is congestion, pain and swelling of the part from which the flow comes. If the patient has a sore on any part of the body it becomes more congested and painful at the time. I have seen cases in which the inflammation would extend to a radius of an inch from the sore. Such symptoms, recurring at regular intervals of four weeks, make the diagnosis sure.

TREATMENT. **Treatment** should be directed to the pelvic organs. Some trouble, such as an inflammation or obstruction to the escape of the discharge, is found there. As a rule, the part from which the hemorrhage comes is weak or diseased and needs strengthening by treatment. A case of HEMATEMESIS recently came under my care, in which the menses would partly be discharged in the normal way, then during the latter part of the period the patient would vomit blood, while the discharge from the uterus ceased. In this case the treatment was applied to a displaced uterus, also to the stomach which was weak. The real

trouble was in the pelvic organs, and by correcting that disorder and at the same time strengthening the stomach, the case was cured.

PRECOCIOUS MENSTRUATION is a term applied to menstruation occurring before puberty, or else a very early puberty. Instances are on record in which this has occurred at the age of two years. There are few symptoms of menstruation other than the bloody discharge. In some, the genital organs and breasts are partially developed, and a show of sexual passion is present. In most of these cases there is a **HEMORRHAGE** rather than a **MENSTRUATION**, since the usual local and reflex symptoms are absent. The loss of blood weakens the system and should be combatted. Masturbation is frequently found as the real cause and steps should be taken to overcome the habit, if found.

If it occurs in a girl lacking a few years of normal puberty it indicates an early development of the ovaries, brought on by sexual excitement, evil associates or the reading of immoral literature. In such cases there is marked development of the mammary glands and pelvic organs, while the menstrual periods are irregular, painful and profuse.

DELAYED MENSTRUATION is a form of menstrual disorder in which the menses do not appear at the fourth week but are delayed several days, in some cases nearly the entire month. If delayed two months it would be called amenorrhea.

It is produced by exposure or injury just before or at the time for the appearance of the flow. A **DISPLACED** uterus occurring at this time often causes it. It produces pelvic uneasiness with pain in the abdomen, back and limbs and is sometimes attended by general soreness of the muscles of the entire body. There are mola and a feeling as if the flow might come on at any time. It may give rise to rheumatic conditions or, in chron-

ic cases, the nervous form of rheumatism called rheumatoid arthritis.

A stimulating treatment in the lumbar and sacral regions coupled with strong percussion of the sacrum, is generally sufficient to start the flow, and as soon as it starts the various pains leave. If this is not sufficient sitz baths, hot enemata and vaginal douches are helpful as auxiliaries. Sexual intercourse, local treatment, inhibition of the clitoris, all produce uterine congestion and dilatation of the os and in many cases are successful in bringing on the flow.

IRREGULAR MENSTRUATION may be a form of menorrhagia or it may occur without excessive flow. It dates, in most cases, from puberty, parturition or abortion, and depends upon a disturbed circulation or some interference with the nerve centers controlling menstruation so that the normal stimulus is impaired. Lack of care, exposure and overwork and too severe spinal treatments all combine to make menstruation irregular. The intermenstrual period may be two weeks, then five weeks in length, the patient not knowing when to expect the sick time. The amount varies, being sometimes scant, sometimes profuse. Local pain, as well as the menstrual reflex disturbances, is usually exaggerated.

In the cases that have come under my observation the lesions have been at the sacro-iliac synchondrosis, there being either a slipped innominate or sacrum. The form which dates from puberty is probably due to interference with the proper development of the uterus or ovaries, more frequently the latter. Displacements and subinvolution following abortion may lead to an irregular menstruation.

The treatment depends upon the lesions found in the indi-

vidual case. If the circulation and nerve supply can be adjusted, the case can be cured.

PROTRACTED MENSTRUATION. If menstruation is protracted beyond the age of forty-five it is regarded as abnormal if accompanied by other symptoms. In some cases it is the result of continued activity of the ovaries and is not pathological; in others it is the result of some abnormal stimulation of the ovaries or uterus, and is then pathological. It may persist as late as fifty years and impregnation take place, but this is the exception and occurs in few cases. After the age of forty-eight the presence of menstruation is, in many cases, indicative of malignancy, and care should be taken to ascertain the character of the discharge, odor and amount. Protracted menstruation is only a symptom and in ordinary cases does not need treatment, but if the hemorrhage is too profuse and there are reflex pains, or if there are symptoms of cancer or other malignant growths, it should be checked if possible.

DISEASES OF THE FALLOPIAN TUBES.

THE FALLOPIAN TUBES. The ANATOMY of the tubes has been considered. Functionally they act as ducts along which the ova and spermatozoa pass, and also serve as receptacles for both the ovum and spermatozoon. They also take part in the menstrual process, the epithelial cells as well as a bloody secretion, being cast off. I have seen cases of membranous dysmenorrhea in which there was a cast of the tubes about one-half inch long. It was very fragile, probably a portion had been broken off in its passage. From this it would seem that they are important factors in menstruation. Again, post mortem examinations have been held in women who died during the menstrual flow and blood was found in the tubes, but in these cases it could have been forced back into the tubes from the uterus. Ectopic gestation most frequently occurs in the tubes, the diagnosis of which will be considered separately.

DISEASES of the tubes include malformations, occlusion, congestion, displacements, inflammatory conditions and new growths. There may be arrest of development due to some abnormality of the Mullerian ducts, resulting in an absence of tunneling or a total absence of one of the ducts. Again, the tubes may be open at the uterine end with a constriction at the middle portion. In such cases there is found an undersized and non-developed ovary on the same side. The malformations give rise to pain at the menstrual time, sterility, or local peritonitis resulting from the ova and blood dropping back into the peritoneal cavity.

INFLAMMATION of the Fallopian tubes is called salpingi-

tis. It is rarely found as a separate disease but is most frequently found in connection with ovaritis or endometritis. The disease is usually unilateral, the left side being attacked more frequently than the right. The mucous membrane swells, this depending in amount on the degree of inflammation and the cilia are absorbed or destroyed, at least their function is perverted. An EXUDATE follows the congestion, which serves to AGGLUTINATE the tube to adjacent structures, principally the peritoneum. This condition continues until ADHESIONS are formed, DRAWING, TWISTING and securely binding the tubes, ovaries and broad ligaments INTO ONE INFLAMED CONGLOMERATE MASS. In marked cases pus forms and is forced out into the abdominal cavity; localized peritoneal adhesions form and, if the condition continues, extensive pelvic peritonitis, with its inflammatory exudates, follows. In cases due to infection such as gonorrheal inflammation, pus usually forms. The OSTIUM ABDOMINALE closes and the pus is retained, thus forming a pus sack or pyo-salpinx.

These tubal inflammations are variously classified but are most commonly divided into acute, chronic and infectious.

ACUTE SALPINGITIS may be the result of ovaritis or endometritis. A sudden stoppage of the menstrual flow, especially from exposure or cold, is followed in most cases by inflammation of the tubes. Labor, and especially abortion, affects the tubes either from trauma or infection during the puerperium. The use of the uterine sound sometimes produces acute salpingitis.

GONORRHEAL infection may set up an acute inflammatory process, but this is more often chronic. This CAUSE is a very important one in chronic cases. The disease extends by continuity of tissue to the Fallopian tubes and ovaries, and when once the gonococci reach the tubes a cure is well nigh impossible. No form of douche will reach the seat of the disease and one has to

rely on the germicidal action of the blood to rid the tube of these micro-organisms. I have examined many women who had this type of SALPINGITIS as a result of conjugal relations with a husband who had LATENT GONORRHEA. In the early stages there is a vaginitis with altered secretion. This gradually disappears but the patient complains of ovarian trouble, and on examination the uterus, ovaries and tubes are tender. This continues for months and finally the disease becomes localized in the tubes and ovaries and a discharge sets in which is worse during menstruation; the tubes enlarge, remain tender, and the slightest pressure over them is productive of pain.

Any other condition causing an acute endometritis such as the use of the sound, dilator, tent or medicated douches, will produce salpingitis. If a douche is forcibly introduced into the uterus it is likely that the fluid will be carried through the Fallopian tubes into the peritoneal cavity and cause inflammation of the tubes, ovaries and peritoneum.

In cases of salpingitis the mucous membrane swells, the tubes thicken and an intense pain is located just to the side of the uterus. This pain is acute, lancinating or colicky, or in some cases simply an ache. The patient walks very carefully and avoids shaking or jarring of the body, the least motion of the parts exciting pain. Coitus, coughing, sneezing, or anything moving the tubes either directly or indirectly through a change in the intra-abdominal pressure, will bring on pain. On palpation there is great tenderness over the tubes and, if there is not too much inflammation, the enlarged tubes can be felt through the abdominal wall, in some cases they being almost as large as the finger. There is scanty menstruation unless it has been entirely checked. Dysmenorrhea is also present, it being both of the ovarian and inflammatory type.

CHRONIC SALPINGITIS may follow the acute attack or it may occur independently. Lesions producing chronic pelvic inflammations also produce salpingitis, such lesions being found usually in the lumbar region. The **CONTINUED CONGESTION** and inflammation tend to produce a constriction or narrowing of the canal and adhesions are often found. The secretions are affected, in many cases pus collects in the tubes producing the condition of pyo-salpinx. This causes an enlargement of the tubes which might be mistaken for an ovarian tumor.

The **symptoms** of salpingitis are **tenderness** over the course of the tubes, and pain on the least jar of the body, such as would result from riding over rough roads or from running or walking rapidly. **LEUCORRHEA** is found, but this is due rather to the co-existing congestion and inflammation of the uterus than to the salpingitis. **PAIN** is increased at the menstrual period although there is a constant feeling in the side as if something were pulling down on the ovary. The **menses** are affected as to amount, there being an increased flow as the result of congestion. On palpation in the pouch of Douglas, an inflamed mass of tissue can be felt. This enlargement is composed, in most cases, of the tube, ovary, broad ligament and an inflammatory exudate which firmly holds the different structures together.

The latent form of gonorrhea as mentioned above is a very common cause of the chronic form of salpingitis. The patient's **HEALTH IS UNDERMINED** and she suffers with **FEMALE WEAKNESS**. There is chronic backache and sideache, and the abdomen is very tender.

Salpingitis is very hard to diagnose from ovarian and uterine disease, but there is little use in so doing as the causes are similar and treatment about the same. Sometimes tubal disease is mistaken for appendicitis, if the right tube is affected. The

diagnosis can be cleared up by noting the position of the mass and by local vaginal examination in which the tube can be reached.

The **treatment** consists of correcting the uterine and ovarian displacement in order to remove the traction which is exerted on the tubes. Also correct bony lesions which interfere with the blood and nerve supply to the parts, or that affect the broad ligaments. Treatment applied over and around the tubes is sometimes beneficial in that it helps to relieve the congestion of these parts. Operations for the removal of the tubes are resorted to by surgeons. In some cases, such as a marked condition of pyo-salpinx, it is indicated, but in a great majority of cases the disease can be cured by osteopathic methods and the operation avoided.

OVARIAN DISEASES.

THE OVARIES are the **most important** of the PELVIC ORGANS, and exert a predominating influence over the rest of the genitalia.

By reference to their anatomy we find that they are oblong bodies located one on either side of the uterus and held in place by the ovarian, infundibulo-pelvic and broad ligaments, being imbedded in the walls of the posterior layer of the last named ligament.

Their **development** occurs at puberty, at which time they commence to perform their function, that is, ovulation and menstruation begin. Prior to this the ovaries have no function, hence are undeveloped and inactive. Disease, except that resulting from an error in development, seldom attacks them before puberty. They sometimes retain their infantile form and size. In such cases they are elongated and extend along, and apparently constitute a part of, the Fallopian tubes. This peculiarity is so marked in some cadavers that it is hard to differentiate between tubes and ovaries.

The ovary, like other internal organs, is subject to disease. Primary diseases of these organs are rare, but secondary diseases frequently and readily attack them. The principal diseases are displacement, inflammation and tumors; while in some malformations and non-development are found, in which cases there is sterility and menstrual disorders.

DISPLACEMENT of the ovary is met with most frequently as the result of a displaced uterus or broad ligament. In some cases it becomes displaced independently of the uterus. as a re-

sult of stretching and elongation of its ligaments. Such cases are seldom pathological, thus giving rise to few, if any, symptoms. Since the ovary is imbedded in the posterior wall of the broad ligament, anything which displaces this ligament would

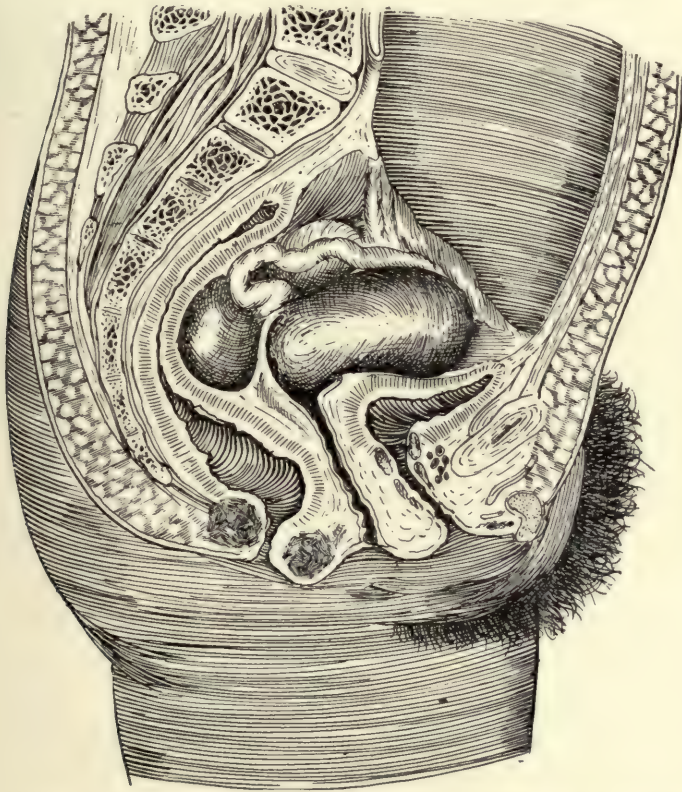


FIG. 104 —Showing prolapsus of ovary and tube into the pouch of Douglas.

displace the ovary, hence **IN ALL UTERINE DISPLACEMENTS the ovary is of necessity displaced**, the amount of displacement depending upon the degree of the uterine displacement, the amount

of relaxation of the ovarian ligaments, and weight of the ovary. The primary form is due to enlargement of the ovary in which the weight is considerably increased. This increase in size may be caused by congestion or a tumor. Excessive venery is responsible for a large, flaccid ovary with weakened, easily stretched ligaments. The repeated congestions from coitus finally lead to a chronic congestion with its hyperplasia, or to inflammation with its cell proliferation.

In cases of acute retroflexion, the OVARIES are pulled down into the pouch of Douglas where, by rectal or vaginal examination, they can be felt as tender bodies. In such cases DEFECATION IS PAINFUL as the contents of the bowel in passing through the rectum must impinge on the ovary. In many cases of displaced uterus the pain is referred to the side or region of the ovary. There is **nausea** and even vomiting in some cases, probably due to pressure on or other disturbance of the ovary. Pressure on the testicle in the male, has a similar effect. In such cases of displacement, the ovarian irritation is the real cause of the cramping in the side referred to above. PRESSURE EXERTED DIRECTLY ON THE CONGESTED, displaced ovary, causes a **sickening** pain like that resulting from pressure on a floating kidney.

RELAXATION of the ligaments and supports of the ovary also cause its displacement. In pregnancy the ovaries are drawn upward and all the structures surrounding them are stretched. If a condition of subinvolution follows parturition, the ovaries are not drawn back into their position but remain in an abnormal position. In such cases the uterus is large and soft, the vaginal walls relaxed, tubes thickened, there is a CHRONIC ACHE in the SIDES and the PAIN is referred to the ovaries. The ovary may sink by its increased weight when it enlarges, as from congestion or the presence of a growth. The left is more frequently pro-

lapsed than the right, since it is the weaker of the two. Adhesions which result from chronic peritonitis often pull the ovary out of place or cause a sense of tightness in that region.

The **symptoms** of prolapsed ovary are tenderness and pain over and around the ovary, the pain in some cases being acute, either shooting toward the umbilicus or down the limb. Any motion or jarring of the part increases the pain. In recent cases there are frequently functional derangements of the nervous system. In a thin subject the ovary can be felt by rectal or bimanual examination, it being recognized by its shape, tenderness and the nauseating sensation from pressure exerted on it.

It is diagnosed from FECAL IMPACTION by its shape, location and the character of pain resulting from pressure. A SMALL FIBROID is less movable, not tender and is complicated by menstrual disorders, usually menorrhagia. An OVARIAN CYST is larger, fluctuates and rapidly increases in size.

Many forms of disease of distant organs result from displacement of the ovaries, especially if some inflammation complicates the prolapsus. The most common reflex trouble is **pain** in the **iliac fossa** in that part supplied by the tenth and eleventh intercostal nerves. The irritation of the ovary resulting from its displacement affects the OVARIAN plexus of nerves, which in turn affects the TENTH, ELEVENTH and TWELFTH segments of the thoracic cord. Therefore, impulses arising in the ovarian plexus reach the spinal cord. Applying Head's law we find that the IRRITATION or pain is referred to the area supplied by the cerebro-spinal nerves with which the ovarian plexus is connected, viz., the TENTH, ELEVENTH and TWELFTH THORACIC nerves. The **POINT of greatest pain** is in a small area on a level with and immediately internal to the anterior superior spine of the ilium. The constant aching referred to the side, is a common accompaniment of, or sequel to, prolapsus of the ovary with congestion.

PAIN in the knee with or without synovitis has occurred in the author's practice. In some cases the knee was very much enlarged from an effusion. Replacement of the uterus and ovary on the affected side, reduced the swelling and relieved the pain. Another case came under my care—synovitis of the knee with partial ankylosis of the joint following an attempted abortion in which the ovary was injured.

The **stomach** is the most frequently affected of all the viscera. Nausea and vomiting occur at irregular intervals, and indigestion with flatulency is often found as a complication. A displaced uterus, if occurring suddenly, produces intense nausea. This is due in part, if not entirely, to the sudden ovarian displacement.

Hystero-epilepsy constitutes one of the most interesting of the complications of ovarian displacement. In such cases the attack is heralded by the formation of a "KNOT" or "LUMP" which, starting somewhere in the abdominal region, GRADUALLY ASCENDS until it reaches the heart or throat, at which time the patient suddenly loses consciousness. This peculiar movable lump is a fairly reliable indication of ovarian disease, most commonly a displacement. Hysteria is often manifest by this "lump" in the throat which can not be swallowed. Ovarian displacement is commonly found in hysterical patients.

Dr. Harvey Mayer reported to me a case of epilepsy dating from parturition, which was cured by replacement of a prolapsed ovary. The case was one of several years standing and had not been benefited by any form of treatment prior to this.

TREATMENT consists of first reducing the uterine trouble. If there is subinvolution, endeavor to restore the normal circulation by correcting bony lesions, and the uterine displacement, and by abdominal treatments, to lift up the intestines in order to relieve congestion of the uterus.

Gentle pressure directed AGAINST THE OVARY when the patient is in the knee-chest position, by means of the finger placed in the posterior fornix, will cause it to assume its normal position unless held down by adhesions or an irreducibly displaced uterus. If adhesions exist they can be broken up by repeated attempts at replacement of ovary and uterus. It must be borne in mind that the ovary is a VERY SENSITIVE ORGAN even in its normal condition, and especially so, when displaced and inflamed. This being the case a VERY GENTLE force should be used when replacing or palpating it. Rest, both physical and sexual, should be demanded, since either one tends to irritate and make worse this condition.

CONGESTION OF THE OVARY is probably the MOST FREQUENT of all ovarian affections. It is rare to find a woman who does not have pain or tenderness in the region of the ovary either constantly or during the menstrual period. This congestion may be primary or secondary. In the young it is usually primary; in multipara, secondary.

The **mind** has a great deal to do with the sexual organs, and since the ovaries are the most important of these organs, in that they control and regulate the function of the other pelvic viscera, it follows that they are the MOST INFLUENCED by the mind. Stimulation of the higher centers, which are supposed to be in the cerebellum, produces ovarian congestion. This is manifest in the ACHE OF THE OVARY FOLLOWING UNGRATIFIED SEXUAL DESIRE, which is the MOST COMMON **cause** of ovarian congestion in nullipara, and is followed by VARICOSITIES of the veins in the broad ligaments, and usually by ovaritis. If this occurs repeatedly, the ovary must of necessity become diseased. An analogous condition is found in the male, as is indicated by the aching tender testicle followed by varicocele, if the congestion occurs

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repeatedly. If there has been sexual excitement the activity of the ovaries is increased by it and whenever this occurs, as is the case when the activity of any organ is increased, congestion follows. Hence it follows that anything which increases sexual desire, whether it comes from immoral associations, impure literature or a lesion which stimulates the pudic nerve or pelvic plexus or nerves, excites ovarian congestion.

A **slipped rib**, either by pressing on the structures over the ovaries or interfering with the rami communicantes of the sympathetic, often CAUSES OVARIAN CONGESTION. The ganglionic sympathetic chain lies on or NEAR the **heads of the ribs**, consequently a slight displacement of the lower ribs will often disturb the connection existing between the cerebro-spinal and sympathetic nervous systems.

Displacements of the **ninth, tenth** and **eleventh** dorsal vertebrae, cause ovarian congestion by affecting the vaso-motor centers of the ovaries. These CENTERS are located in the LOWER THORACIC SEGMENTS of the spinal cord and CONNECT WITH THE OVARIES by way of the white rami, sympathetic ganglia, efferent nerves, which are the lesser and least splanchnics and renal plexus, thence by way of the ovarian plexus to the ovary. These vertebral lesions affect (1) the nerves in the corresponding foramina and (2) the blood supply to, and drainage of, these spinal segments, so if these nerve cells are affected in any way, the impulses arising from them would be disturbed. One of the functions of these cells is vaso-motor, hence a disturbance results in an alteration of the amount of blood in the ovary. The best explanation of the effect on these cells, from the writer's experience, is that the LESIONS IMPAIR the NUTRITION of the cells by AFFECTING NORMAL CIRCULATION TO THEM.

Displacements of the **uterus** or prolapsus of the ovaries is

accompanied by congestion and, in most cases, inflammation which may extend from the tubes to the ovaries as a result of chronic congestion of both.

INTESTINAL PROLAPSUS causes a venous stagnation in the ovaries from pressure on the ovarian veins. These veins are very long and yield to a very slight pressure.

The **symptoms** vary with the degree and kind of congestion. If it is active there is a burning, aching, throbbing sensation, acute or lancinating pain, followed by a dull ache in, and tenderness over the ovary, as the active congestion becomes passive. If a passive congestion, there is a sense of weight and heaviness in the affected side.

ACUTE OVARITIS is most commonly associated with acute salpingitis, especially the form due to GONORRHEA and ACUTE METRITIS. Sometimes it is found in the puerperal state. Sudden suppression of the menses causes ovaritis as well as salpingitis. In cases of pelvic peritonitis from other causes the inflammation extends to the ovary and there sets up an acute inflammatory condition.

Most writers on the subject claim that ovaritis is due to microbic infection. Perhaps this is true of the gonorrheal type of ovaritis but I think this not true of the ordinary forms. If microbes are found, that alone does not prove them to be the cause, but it does prove that the tissues are devitalized to such a degree that the organism can not repel the invaders.

Repeated congestion of the ovary, especially that due to ungratified sexual excitement, is the most prolific of all causes. The ovary remains congested for days and the patient complains of a constant ache in the side.

In considering the **PATHOLOGY OF ACUTE OVARITIS** the changes are similar to those in any acute inflammation. The ovary is

swollen, softened and the blood vessels engorged. There is often a plastic exudate which covers the ovary, finally resulting in the formation of adhesive bands. This exudate entirely surrounds the ovary and in many cases hides it from view when the pelvic cavity is opened. The tubes and ligaments, particularly the broad ligaments, are usually involved.

ACUTE OVARITIS may be secondary to **mumps**, if the patient exercises too soon after an attack. What the connection is between the parotid gland and the ovary the writer will not attempt to explain, but it is well known that there is a close sympathy between the gland and pelvic viscera. This is partly proven by the fact that there is ptyalism in the early stages of pregnancy.

The **symptoms** can not be differentiated from those of salpingitis or a localized peritonitis. There is a burning pain over the ovary, often radiating to the limb on the affected side, which results in a contraction and **DRAWING UP** of the limbs. The abdomen is extremely tender to touch, which is indicative of a peritonitis. On palpation there is usually found a **TENDER INFLAMED MASS BACK** of and to one side of the uterus. This mass is fixed and consists of the tube, ovary and a pelvic exudate, all of which are bound together, making it hard to outline any one of them. In the early stages the ovary can be outlined, it being exquisitively tender to the touch and much swollen.

The **treatment** for temporary relief is to work out the inflammation by commencing at the edge of the inflammatory area and gradually working up to the seat of inflammation. Treatment should not be given over the inflamed area at first as there is danger of increasing the irritation. The muscles along the back should be relaxed, since in almost every case they are badly contracted. **REST** should be advised, the patient being allowed on her feet but very little. **CORTION** is painful and should be

prohibited. In some of my cases I have found a slight twist of the lower dorsal vertebrae, and by correcting this instant relief was obtained. If the ovarian inflammation is a complication of uterine disease, such as acute metritis, the primary or curative treatment should be applied to the uterine disease. Replacement, with the starting of the menstrual flow, are the BEST TREATMENTS FOR ACUTE METRITIS and will relieve the intense OVARIAN CONGESTION and INFLAMMATION.

CHRONIC OVARITIS, or oophoritis, frequently follows the acute form, especially the primary acute ovaritis resulting from congestion of the ovary. The continued hyperemia at last results in degenerative and inflammatory changes which, after a while, are followed by the chronic form of inflammation.

Displacements of the ovaries lead to congestion and finally to chronic oophoritis. Chronic uterine inflammation extends to the ovary and there sets up inflammatory changes; chronic salpingitis produces a similar condition; latent gonorrhea, by causing a chronic salpingitis, produces the chronic form of oophoritis. Some of the worst cases of ovarian inflammation result from gonorrheal infection by the husband who had latent gonorrhea. The urethritis was supposed to have been cured but occasionally there would be a slight discharge if the patient strained at stool or in micturition, and especially in the morning. After infecting the wife the disease gradually ascends until it reaches the ovaries. Chronic inflammation follows with a discharge of a VERY IRRITATING CHARACTER. In some it is so INTENSELY ACID that it ERODES THE TISSUES WITH WHICH IT COMES IN CONTACT. The ovary at first hypertrophies, softens, then the interstitial growth increases from the inflammatory exudate, after which, in favorable cases, it gradually shrinks and becomes very small and hard.

The OVARY is sometimes INJURED during childbirth. If prolapsed it is compressed between the fetal head and brim of the pelvis and is bruised if not badly injured. This is followed by inflammation and, in severe cases, pus formation with chronic discharge.

Lesions along the lower dorsal region, such as any form of curvature, a twisted vertebra or a displaced rib, are the principal CAUSATIVE FACTORS. If these lesions exist, as weakening or predisposing causes by which the organs lose some of their power of combating disease, then an inflamed or displaced uterus or, in fact, any exciting cause, acts the more readily.

From a pathological standpoint, the stroma is most involved, but the parenchyma may be affected. There is formation of NEW CONNECTIVE TISSUE, in fact an overgrowth with hypertrophy of its follicles, from which there often develops retention cysts, thus forming the cystic ovary; the blood vessels are enlarged and their walls thickened. The WHOLE ovary is ENLARGED and frequently surrounded by peritoneal adhesions which securely attach it to adjacent structures.

SYMPTOMS. In chronic ovaritis there is pain and tenderness in the region of the ovary, the SORE SPOT being JUST ON A LEVEL with the ANTERIOR SUPERIOR spine. This has been explained before as due to the distribution of the tenth and eleventh thoracic nerves which are derived from the same segment that supplies the ovary, hence the reflex phenomenon.

The deep muscles of the lower thoracic region and of the abdomen are often contracted, the patient complaining of a drawing sensation. In the early stages the ovaries may be felt as oblong, tender bodies, deep down in the pelvis. The LYMPHATIC glands which drain the ovaries are enlarged and tender, and the **iliac artery** on the same side FREQUENTLY **much in-**

creased in size. I have seen cases in which the left iliac artery was TWICE the size of the right, being tense and pulsating very hard. The left ovary was much inflamed in these cases.

In other cases the pain will be referred to the navel, and in such it is hard to differentiate from abdominal troubles. PAIN is also found in the side and radiating to the back. A slipped rib is nearly always responsible for this kind, and the clothing or a tight belt causes intense pain over the ends of the lower ribs.

The **mammary** glands are often tender and swollen, and in some cases there are symptoms of MASTITIS or even malignant diseases. LUMPS or tumors form in the gland and cause a great deal of fear and annoyance. In some the nipples are inverted, that is, instead of an elevation or protuberance there is a depression. THIS IS INDICATIVE OF OVARIAN DISEASES, usually a chronic inflammation on the same side, but the converse is not necessarily true, that is, an inverted nipple is not always found in ovarian disease. Remember that there is close sympathy between the mammary glands and the generative organs, in fact these glands should be classed as appendages of the pelvic organs since their function is dependent on the function of the generative organs. OVARIAN ACTIVITY causes an ENLARGED BREAST and in pregnancy the glands are active in milk secretion.

MENSTRUAL disorders follow chronic ovaritis; menorrhagia being the most common at first, but as the inflammation progresses the flow becomes scanty, finally resulting in amenorrhea. Dysmenorrhea of the ovarian type is found. An INTERMENSTRUAL PAIN is occasionally present, recurring regularly, midway between the periods. There is pain on defecation, as in the acute form of inflammation, also in coitus or when the body is suddenly jostled.

The reflex troubles are many and grave. HYSTERIA is nearly

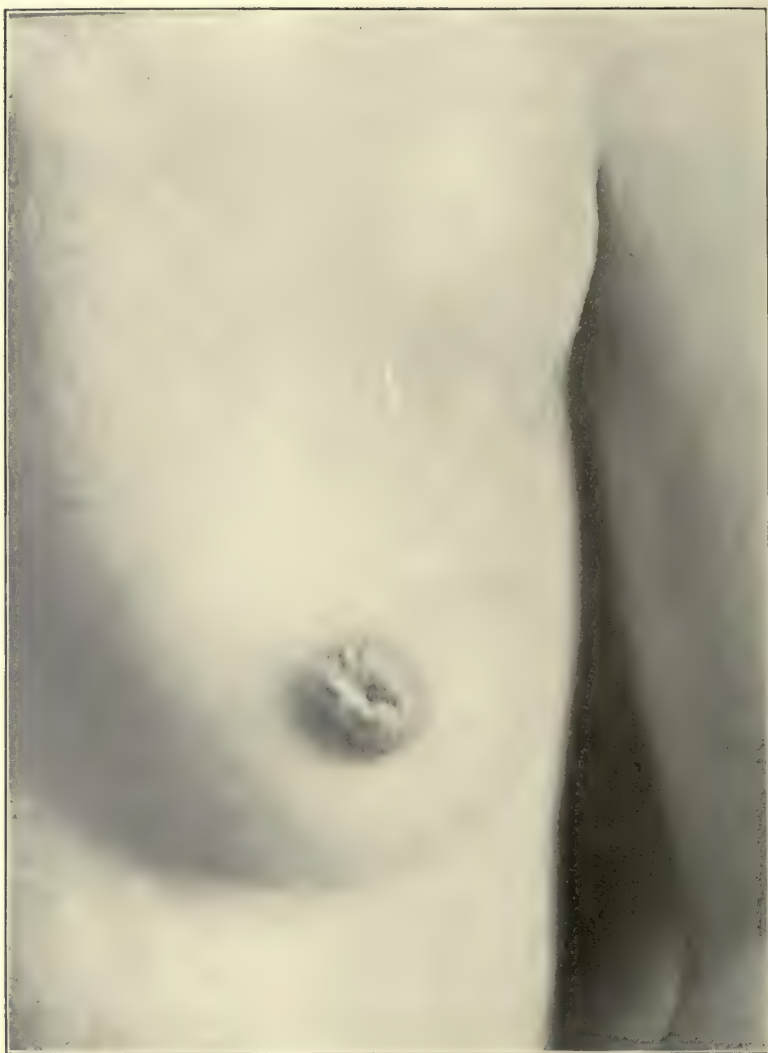


FIG. 105 —Inverted Nipple (From photo of author's case.)

always accompanied by OVARIAN HYPERESTHESIA; HYSTERO-EPILEPSY is present, the symptoms of which were described in discussion of ovarian displacement, and STERILITY is common if both ovaries are impaired, since the inflammation causes a suspension of their function.

DIAGNOSIS. Sometimes it is hard to differentiate between the different enlargements of the abdomen and pelvis. An enlarged lymphatic gland, if in the region of the ovary, may give rise to symptoms of ovaritis, since there is localized pain and a tumor about the size and shape of the ovary. An impacted bowel is often found but SHOULD NOT BE MISTAKEN FOR ANYTHING ELSE, if care is taken.

In diagnosing chronic ovaritis keep in mind the above mentioned symptoms which are peculiar to ovarian disease. Also remember the symptoms of chronic appendicitis, biliary and renal calculi, constipation, enlarged lymphatic glands and Fallopian tube disease. The prognosis is favorable for a cure without an operation unless it is of a too chronic form or there has been too much degeneration. Too many lives have been sacrificed by experimental operations, THE SURGEON ONLY SUPPOSING THERE WAS SUCH A DISEASE. By osteopathic treatment these operations are avoided and the woman cured without being unsexed.

TREATMENT. The PRINCIPAL TREATMENT is to correct the bony lesions causing the disease. The dorsal vertebrae should be lined up, the lower ribs replaced, and uterine displacements corrected, as the ovary will very likely be congested and inflamed so long as the uterus is displaced. Abdominal treatment over the ovary, by which the intestines are raised and the broad ligaments straightened is helpful, since it partially, if not completely, removes the obstruction to the return blood flow.

Rest is necessary, and the patient must be kept off her feet as much as possible. Physicians often use electricity, counter-irritants and various drugs, both internally and externally, but all of these do not, and will not, cure, since only the symptoms can be combated by their use. Ovariectomy, as mentioned before, has become quite a fad. A case of supposed ovarian inflammation, in which there was no disease, was taken to a noted surgeon who, after a careful subjective examination, pronounced it an extreme case of ovaritis and told the patient that unless the ovary was removed at once she would die of "rose" cancer within two years. Of course he was mistaken as there was no disease of the ovary, but it illustrates the tendency of some surgeons to cut and try, if an opportunity is given, in almost every case of ovarian or uterine disorder.

Ovarian abscess follows many cases of inflammation, or, to put it the other way, inflammation always precedes pus formation in the ovary. I look upon pus as decomposed blood, or at least dead blood is necessary to pus formation, the cause of this condition of the blood being lack of motion. **Moving blood is live blood; stagnant blood is dead** and the elements necessary to pus formation are present. In ovarian abscess the blood has stagnated in the ovary and undergone decomposition, which steps are preparatory to pus formation. The causes of stagnation of the blood in the ovary have been outlined under causes of congestion and inflammation.

When the pus at first forms it becomes encapsulated; later it burrows into the peritoneal cavity where it becomes circumscribed but soon sets up a local peritonitis or escapes by burrowing into the vagina. Sometimes it escapes BY WAY OF THE TUBES into the uterus, but in either case it is discharged per vaginam. If of slow formation the discharge is thick, greenish yellow or

brownish from presence of blood, and is worse immediately after the menstrual period. If there is **FREE EXIT** to the pus, little is absorbed and the toxemia is not marked; but if absorbed, the patient has a **CADAVEROUS** appearance as a result of the **toxemia**. In the more marked cases irregular chills come on and the patient gradually grows weaker and more emaciated.

The **diagnosis**, in such cases, is based on the character and source of the vaginal discharge. In early stages the usual symptoms and signs of a deep abscess are present.

The **treatment** in mild cases is one directed to restore normal circulation through the diseased ovary, which can be accomplished, if the pathological changes are not too far advanced, by correcting vaso-motor disturbances, replacing the uterus and ovaries, and **SECURING GOOD DRAINAGE** by removing mechanical obstructions to the return flow of the blood. In marked cases that do not yield to osteopathic treatment the diseased ovary should be removed.

TUMORS of the ovary are usually of the cystic variety, but an occasional solid tumor, such as a dermoid or fibroid, is found. **Cysts** commonly arise from disturbance of the rupture of the Graafian follicles or of the corpora lutea. The Graafian follicles enlarge and rupture, allowing their contents to escape at each menstrual period. If, from an inflamed condition or any other cause, they do not rupture they continue to swell rapidly and form a cyst. This form is called **DROPSY OF THE GRAAFIAN FOLLICLE**. The corpus luteum may swell and be filled with a yellow fluid and in this way produce a cyst. The contents of these cysts consist of a clear straw colored fluid which, in chronic cases, sometimes becomes a jelly-like mass surrounded by a thin membrane.

DERMOID cysts are sometimes found, being somewhat harder

and composed of different structures, such as hair, skin, nails and teeth which are derived from the epiblastic layer, and are supposed to be the result of invagination of this layer.

FIBROID tumors of the ovary are occasionally discovered, also cancers, but they are rare. Frequent congestion of the ovary may result in a deposit from which a new growth appears. Tumors are found during the period of sexual activity, nullipara being much more liable to disease than multipara, since they do not have the physiological rest enjoyed by the latter during pregnancy and lactation. By the osteopath, displacements of the ribs are associated with ovarian diseases and are regarded as causes of the formation of cysts. The lesions along the lower dorsal region also weaken the ovaries and predispose to disease.

SYMPTOMS. In **cysts** of the ovary the tumor is unnoticed until there is some enlargement of the abdomen. If free, so that it can rise in the abdomen, it gives the woman the appearance of being pregnant. If held down so that it can not rise it causes pain in the side, and in the small of the back. The weight of the tumor causes a sense of heaviness and interferes with the patient's gait, giving her the waddling gait of pregnancy. Menstruation is painful and accompanied by an increase in size of the tumor. In some cases there is scanty menstruation or amenorrhea, making it difficult to diagnose the condition from pregnancy. The pressure exerted by the tumor gives rise to stomach irritation, edema of the limbs and varicose veins. Hemorrhoids are usually found, resulting from pressure on the hemorrhoidal plexus of veins. Pain is noted from pressure on or stretching of the peritoneum.

The **growth** of the cyst is rapid, while that of the fibroid is slow. The general health is at first not affected, but later is gradually impaired and the vitality lowered; there is emaciation,

and interference with the functions of the different organs; the face has a careworn, pinched expression, with the lines of the face deepened. To this condition the term "FACIES OVARIANA"



FIG. 106.—Ovarian cyst, front view (From photo of author's case.)



FIG. 107.—Ovarian cyst, side view. (From photo of author's case.)

has been given. The emaciation, shrunk cheeks, hollow eyes, depressed angles of the mouth and distended nostrils make the appearance of the patient characteristic, if in the latter stages of the disease.

DIAGNOSIS. The **diagnosis** of an ovarian tumor is based mostly on palpation. In order to do this properly, the abdomen

should be bared or the clothing very much loosened. By carefully laying on both hands the spots of increased resistance can be ascertained. In the early stages the tumor is felt on one side but as it enlarges it pushes inward to the median line and forms a symmetrical enlargement. If the tumor is of a rapid growing variety of cyst it will have an ELASTIC feeling similar to that of a water bag filled with water.

Fluctuation is an important sign of a cyst. It is obtained by fixing one side of the tumor with one hand, then with the other giving a quick, stroke toward the opposite side.

Percussion elicits a dull sound over the tumor, while the surrounding tissues give a resonant sound. By local examination the uterus is found pushed out of position and crowded tightly down into the pelvis. The tumor may be felt as a GLOBULAR ELASTIC mass to one side of the uterus.

By the bimanual method, the size and position of the tumor can be readily ascertained. Pregnancy should be kept in mind and its characteristic symptoms looked for, especially if there is amenorrhea. The writer recently saw a case of this kind in which pregnancy was mistaken for a cyst. There was amenorrhea but not the other symptoms of pregnancy.

Another case came under my notice, in which PREGNANCY complicated a CYSTIC tumor. On abdominal palpation TWO DISTINCT bodies could be outlined. Pregnancy was not diagnosed with certainty until fetal heart sounds and quickening were ascertained; the early indications being obscured by the tumor. The patient carried to term and was delivered of a well developed mature child. In fact, the child was not misshapen in the least, molding not having taken place since the pubic bones were separated by the enormous distention. The patient's waist measure was over sixty inches, and the lower limbs were black from the

numerous varicosities. She was operated on four months after delivery and a large multilocular cyst somewhat larger than a water bucket, removed. The patient made an uneventful and complete recovery.

When there is any doubt as to the disease being a cyst or pregnancy WAIT until the DIAGNOSIS is established before operating, as was done in the above described case.

Ascites can be diagnosed from a cyst by the character of the enlargement, the presence of some other disease, and the percussion note, it being dull at the edges and tympanitic at the center.

A UTERINE FIBROMA is diagnosed by the consistency of the tumor and the other characteristic symptoms of a fibroid tumor, such as hemorrhage and the character of the pain.

Distention of the uterus from retention of the menstrual flow may be mistaken for a cyst, but the menstrual disorders, mola-mina and location of the tumor will help to make up the diagnosis.

Enlarged **lymphatic** glands felt through the abdominal wall along either side of the spine, simulate ovarian tumors, but the enlargement is gradual and the growth usually hard. A large tumor is easily recognized but a small one is hard to diagnose. Remember the location of the ovarian cyst, rapidity of growth and the pressure symptoms. Also remember that a prolapsed impacted bowel will form an enlargement, while a displaced rib will give rise to pain in the region of the ovary.

TREATMENT. A great many cases cured by osteopathic treatment were those in which the former diagnosis was wrong. It is rare to get a true case, but common to get one in which there is some enlargement of the side, simulating ovarian cyst. The bony lesions should be corrected, and whether it is a cyst or not the symptoms abate in most cases.

It is not necessary to NAME A DISEASE in order to treat it, although a great many physicians depend upon the name. The osteopath treats and corrects abnormal conditions of the anatomy, REGARDLESS OF NAME or symptoms given it by other physicians. If the case is one of true ovarian cyst, as is best evidenced by obtaining fluctuation, treat it osteopathically, that is by correcting the lesions found. If, after a fair trial, the PATIENT continues to suffer, then, and not until then, should recourse be made to surgery. In addition to correcting bony lesions a loosening up treatment applied to the spinal column, especially the lower dorsal and lumbar regions, is very helpful.

The CYST itself can be directly manipulated and relief can be given by treating just above the tumor, lifting up and off the neighboring structures. This abdominal treatment is especially indicated if there are hemorrhoids, varicose veins or any pressure symptoms.

Solid tumors and dermoid cysts will only be mentioned since they are so rarely met with. Such diseases belong to surgical gynecology and removal is the only rational treatment. For the operation for removal of the ovary or cyst, reference should be made to some work on **surgical gynecology**.

Cystic degeneration of the ovary is found in many cases of mal-development, dysmenorrhea or chronic disease of the ovary. The ovary is FLATTENED, ELONGATED, SOFTENED and covered with localized patches of a yellowish color, these patches being areas of degeneration; the uterus is small, soft and usually anteflexed.

The cause is not well understood. Most of the cases treated by the writer were chronic, the TROUBLE DATING BACK TO PUBERTY, so it seems that poor development is one of the important causes. DISPLACEMENTS, both uterine and ovarian, were found in some, and in all marked cases, an **anterior** or flattened condi

tion of the **ninth, tenth, eleventh** or **twelfth** thoracic vertebrae. This condition disturbs the nutrition of the ovary and, if present before puberty, the ovary fails to develop properly, hence the infantile and cystic types.

The **indications** of a cystic degeneration of the ovary are, **dysmenorrhea** of the worst form, usually a MUDDY COMPLEXION with ERUPTIONS and a general RUN DOWN, NERVOUS, MAL-NOURISHED CONDITION. Local examination is often negative, the physician not being able to outline the ovary. In others it can be felt as a flattened, elongated body somewhat tender to the touch. The uterus feels as if it were covered by a thin layer of soft tissue and there is a peculiar slimy condition of the vaginal walls, with leucorrhea present in a very bad form. HEADACHE, INDIGESTION, NERVOUSNESS and hysteria are common symptoms and the patient presents the appearance of a chronic toxemia with its pasty complexion.

The **treatment** consists of correction of the vertebral lesions. Sometimes this can be done and a cure follows, but in very chronic cases it is difficult and an operation for the removal of the ovaries is indicated, after treatment has been given a fair trial and the patient not benefited.

OVARIOTOMY is often followed by a PECULIAR DRAWING OR PULLING SENSATION, referred to the lower part of the abdomen, caused by the formation and contraction of the scar tissue. Brandt advises massage in such cases. In some cases treated by the writer, especially those in which hysterectomy had also been performed, STRETCHING THE SCAR tissue and BREAKING up the adhesions by bimanual manipulation PROVED CURATIVE.

REFLEX DISORDERS.

THE UTERINE and **ovarian reflexes** constitute one of the most interesting subjects associated with the diseases of women. They are so varied and affect so many organs that I always suspect the uterus or ovaries to be in a disordered condition if I have a case in which the symptoms are unusual or peculiar, or which does not yield to the ordinary spinal treatment. The pelvic organs may not be at fault, but as a rule, in unusual cases, they are.

The **NERVOUS CONNECTIONS** between the ovaries, uterus and vagina, with the splanchnic nerves and with the spinal cord in the lumbar and sacral regions, through the hypogastric and other sympathetic plexuses, **ANATOMICALLY** explain many of the reflexes and pains which accompany uterine and ovarian diseases. These reflexes are not confined to the immediate nerves but are found in distant nerves in various parts of the body. The head, eyes, throat or limbs may be affected as frequently as some viscus that is near.

ALL ORGANIC LIFE is RUN by the **SYMPATHETIC** system. This system, like a chain, is as strong as its weakest point. An abnormal irritation at one part will give rise to an impulse that will be transmitted over the entire system and if every part is working properly little injury follows, but if one part is weakened, it is not strong enough to stand the increased stimulation or shock and is affected by it. A **LACERATED CERVIX**, in a **STRONG, HEALTHY** woman, does not produce **ANY APPRECIABLE SECONDARY SYMPTOMS** for several years, but if such an accident occur in a patient already weakened, the effects are immediate. There is nerve loss in both. One can bear it without symptoms, the other cannot.

Lesions weakening the parts innervated from that region are the predisposing causes of reflexes. If a lesion is found at the fourth dorsal which weakens the heart, ANY UTERINE DISPLACEMENT would be an exciting cause and would reflexly affect the heart. Loss of nerve force affects the weakest part in a similar way, that is, it increases the weakness of the organ.

The **uterus** and **ovaries** are, or should be, the **STRONGEST LINKS** of a woman's health in mind and body. Diseases impairing them will certainly be followed by general weakness and reflexes. However, the uterine disease is not always primary but frequently results from a general starved condition of the entire body.

HEADACHE in the **top** of the **head** or in the **suboccipital** region is characteristic of uterine disease, of which metritis or endometritis is the most common. The patient describes the headache as a dull, heavy pain or localized burning sensation in the top of the head. In some cases there is tenderness of the scalp, in others, the pain or ache is internal. If in the neck or suboccipital region there is a dull, constant ache with tendency to **retraction** of the head.

Uterine displacements, fibroid tumors, menstrual disorders, **INFLAMMATION** and **CONGESTION** of the uterus, all produce this form of headache, the two latter causes being the most common. In some cases, the headache is constant, in others intermittent, while the approach of menstruation or being on the feet more than usual, increases the pain.

The **ACHE** in the **BACK OF THE NECK** and head is partly due to a slipped atlas or axis impinging on the suboccipital nerves, then the exciting cause, or uterine disease, increases the weakness and pain. The **ache** in the **TOP OF THE HEAD**, is supposed to be due to some disorder of the ganglion ribes, resulting from a

disturbance of the lower extremity of the chain, the ganglion impar. In such cases treatment applied to the neck frequently increases the pain, and even in the most favorable cases only stops it temporarily.

TREATMENT should be applied to the lower lumbar region, there relaxing contracted muscles and relieving the tension exerted by some displacement which is usually very slight. Many osteopaths have reported to me that INHIBITION AT the SECOND LUMBAR SPINE would relieve the uterine type of headache. Personally, I seldom employ such means, but endeavor if possible to give a corrective, rather than a palliative, treatment. If this does not relieve, recourse should be made to a local treatment which seldom fails to relieve. The writer has cured the worst forms of uterine headaches, after all other methods had failed, by simply LIFTING UP THE UTERUS BY PRESSURE ON THE CERVIX or completely replacing it if possible. To permanently cure these headaches treatment should be directed to correct the uterine troubles.

In the male there is a similar headache coming from an enlarged or diseased prostate gland. In such cases the patient complains of a dull, burning pain in the top of the head, tinnitus aurium and loss of memory. On rectal examination, if the patient is above the age of thirty or has indulged in sexual excesses, the PROSTATE gland will be found congested and tender.

Migraine, also called **hemicrania**, is a form of headache affecting one lateral half of the head and is traceable, in a great many cases, to uterine disease. Endometritis is the most common form producing it. Usually there is an extreme pain and vaso-motor dilatation with increased blood pressure which, in most cases, lasts several days. In some there is a non-developed uterus in others a DISPLACEMENT. The pain is worse near the monthly

period; also most of these headaches stop at the menopause which indicates that the menstrual function is partly to blame.

Frontal headaches accompany gastric disturbances, BILIOUSNESS, INDIGESTION and dietetic errors often produce it. The ingestion of ice water often produces pain in the frontal area. McGillicuddy says Lender Brunton finds that "constipation and presumably intestinal irritation cause a diffuse frontal headache over the whole brow. When there is not constipation and the condition is one of gastric irritation the pain is either just above the eyes (when it will be relieved by acids) or just at the roots of the hair when it will be relieved by alkalis." This is of interest to us in that it in a measure corroborates our experience. As to the condition of the stomach, or rather as to whether acids or alkalis relieve it, it is important to remember that headache above the eyes suggests an alkaline condition of the stomach; at roots of hair, an acid condition. This condition of the stomach can be changed by treatment applied to the middle thoracic area, the fifth thoracic vertebra being the best place.

STOMACH DISORDERS are frequently reflex from uterine or ovarian disease or pregnancy. NAUSEA and VOMITING in pregnancy is a well known example which illustrates the sympathy between the two. However, the better the condition, other things being equal, the less the amount of stomach derangement. If the stomach is in a perfectly normal condition I doubt that nausea and vomiting would occur. If the stomach is weakened by abuse or lesions, coitus, uterine displacements or even the odor of cooking food produces nausea or intensifies it when once started. The best immediate treatment for nausea, one that covers a larger per cent of cases than any other, is replacement of the uterus. It has usually settled down in the pelvis, that is, slightly pro-lapsed or the antelexion is exaggerated.

Another illustration of reflex disturbances, principally nausea and vomiting, is found in cases in which the os uteri is rapidly dilated. In some the vomiting is violent and lasts for several hours. During labor the patient often vomits, this being due, possibly, to pressure exerted on the cervix in dilatation of the os. There is a close sympathy between the stomach and the other abdominal and the pelvic organs. Pressure on the kidney, ovary or testicle produces a nauseating effect.

The NERVE SUPPLY of the **uterus** is closely connected with that of the other viscera, especially the stomach, through the splanchnic nerves. Since the STOMACH, in this day and age of the world, IS ONE OF THE MOST ABUSED ORGANS and one very largely diseased, it follows that it may readily be affected reflexly, the weakest organ being affected first.

Gastralgia accompanies a recent, or sudden displacement of the uterus, pain being localized over the stomach with contraction of the abdominal muscles. It is also found in ovarian colic and other forms of painful menstruation. DISTENTION of the stomach with gas accompanies the menstrual epoch, and may be so severe that the heart's action is embarrassed by it. "Faintness, boulimia and anorexia are frequently the result of uterine or ovarian congestion." Gastralgia frequently occurs at the onset of menstruation. Morbid craving with chlorosis occur at puberty in certain classes of girls.

In cases of emesis due to a diseased or displaced uterus, ordinary treatments are seldom effectual, the patient being relieved only by replacement of the uterus. An opiate, or even chloroform, has little effect in these cases since the sympathetic system is irritated.

A DISPLACED OVARY is a common cause of nausea aside from pregnancy. The patient describes it as a "very sick" sensation

in which she is "sick all over." In SUDDEN UTERINE DISPLACEMENT, I believe the nausea TO BE DUE more to the OVARIAN disturbance which necessarily complicates, than to the uterine. If inflammation is present as a complication of the displacement **nausea** follows in a large per cent. of chronic as well as acute cases, and is made worse by anything increasing the amount of congestion or degree of displacement.

Chronic dyspepsia is sometimes traceable to uterine disease, in that it affects nutrition, thus weakening all the organs of the body.

PHARYNGEAL REFLEXES are common. The patient complains of something in the throat and is unable, or thinks she is unable to swallow. The writer recalls a case of laceration of the cervix uteri in which the throat was reflexly affected. Contraction of the throat muscles would begin just as soon as the patient attempted to eat and would prevent her swallowing. In other cases there was found a sore throat or redness of the fauces with no particular inflammation.

The **tonsils** frequently enlarge during menstruation and are usually diseased in chronic uterine trouble. This is found particularly in rheumatic cases in which there is retention of the menstrual flow as the cause. Some gynecologists claim that uterine diseases are manifested by changes in the throat so marked and constant that the uterine disturbance can be diagnosed by them. This is true in some cases of catarrhal disease of the uterus. REDNESS of the fauces and chronic disease of the tonsils are at least suggestive of uterine disease.

Laryngeal affections from uterine diseases are best represented by a chronic, UNSATISFACTORY, hacking cough which becomes exaggerated at the menstrual periods and even produces soreness of the abdomen from the frequent straining and con-

traction. The **voice** is sometimes affected and it is a well known fact that singers frequently have to cancel engagements on account of the changes in the voice.

In **VENEREAL** diseases, especially syphilis, the throat and voice are affected, the voice becoming harsh and husky. In the above mentioned cases, **LESIONS OF THE NECK** are predisposing causes and should receive treatment, while the uterine trouble is the exciting cause.

CEREBRAL NEUROSIS in the form of **MELANCHOLIA**, morbid fears, insomnia and irritability are often met with in cases of chronic uterine disease. Some are due to loss of nerve energy, others to brooding over a supposed or real disease. There is a class of patients who have "**UTERUS ON THE BRAIN.**" They are constantly talking about it, treating it and thinking about it so much that in time probably some disease does arise. These are the kind which are cured by some new remedy, or in which wonderful cures have been made. Another type embraces those who get the "blues," in which there is mental depression, loss of memory, irritability, or perhaps lethargy. In the last mentioned effect the patient complains of being "no account," always tired and suffers with morbid fears.

A similar condition is found in the male. Tell a man that he is impotent and he becomes afraid of himself. He imagines that every little pain comes from that, and becomes despondent, melancholic and in a great many cases, suicide is the outcome. The **INFLUENCE** of the **MIND** on the pelvic organs is very marked, and in cases in which there is only imaginary disease, **SUGGESTIVE THERAPEUTICS** has been used successfully.

Insanity has followed uterine disease in many cases. Recently there was brought to the A. T. Still Infirmary a case of insanity, following **TOO FREQUENT CHILDBEARING**. The patient

was treated and cured by correcting AN AXIS lesion, the predisposing cause. This, with the excessive strain on the nervous system, unbalanced her mind. She had been pregnant four times in three years; in two the fetuses were carried to term, in the other two she aborted.

The writer was called in consultation in a case of the melancholic type of insanity in which there was a history of criminal abortion, the patient thinking that punishment was being sent upon her for her crime. She brooded over her condition and went from bad to worse until she finally died from malnutrition.

Another case of insanity from ovarian disease came under my notice. The ovaries degenerated and covered with yellowish patches, it being a case of cystic degeneration. Ovariectomy was performed as a last resort but the patient was not benefited. In cases of insanity of these sorts, the cervical lesions are about as important as the pelvic disturbances.

Insomnia is due to increased activity of the brain, in which there is hyperemia, usually of the active form. Many cases are the direct result of uterine disease of some form, which keeps the sympathetic system in a stimulated condition. Many patients awake at a certain hour and can not go back to sleep. In such cases the heart is stimulated by the irritation to the sympathetic gangliated cord, it beats harder and more rapidly, forcing more blood into the brain, thus keeping it active.

HICCOUGH or "kicking of the diaphragm" is usually hysterical but may follow pelvic irritation. A case of endometritis accompanied by hiccough came under my notice, and as soon as the uterine trouble was relieved the hiccoughing ceased, although there was a bony lesion at the fifth cervical which weakened the phrenic nerve. The hiccough recurred from time to time until the cervical lesion was corrected.

Spasmodic contractions of the diaphragm are in most cases due to uterine displacements. I recently saw a case in which the diaphragm and the abdominal muscles would contract every few seconds, markedly interfering with respiration. After giving the ordinary treatments to reach the phrenic nerve and having failed to stop the spasm, a local EXAMINATION was made and a **retro-flexion** of the uterus found. As soon as this was corrected the spasms ceased, only to recur when the uterus was again displaced. Since the uterus would not stay in the proper position and the spasm recurred as soon as the uterus was displaced, a tampon was placed in the posterior fornix to hold it in place, this entirely relieving the patient.

In ordinary cases of hiccough inhibition of the phrenic nerve, either at its origin or along its course, holding the breath or drinking cold water, is usually sufficient to stop the attack.

THE CARDIAC reflexes are very common and important, and are indicated by PALPITATION, irregularity, too slow or too rapid pulse, pain in the heart, or "SINKING SPELLS," the patient being unable to breathe while lying down. I have seen cases in which the heart would commence to rapidly palpitate, this lasting for several minutes, then ceasing as suddenly as it began. The most remarkable case of palpitation which ever came under my care was one in which the pulse rate was so rapid that it was impossible to accurately estimate it, these attacks coming on when the uterus became displaced. The uterus was not held firmly in position and a little strain, running, or even standing for a longer period than usual would bring on a displacement. Just as soon as the uterus prolapsed, it seemed to stimulate sympathetic nerve force, and in this case the **heart** was affected in preference to other viscera because of lesions of the fourth and fifth ribs on the left side. The attacks could be checked by re-

placing the uterus but the patient was not cured until the ribs lesions were corrected.

Another form of cardiac reflex is the weak or irritable heart which is best represented in patients who have "sinking spells." The patient becomes unconscious, the pulse very weak, in some cases can not be detected, and she has all the symptoms of approaching death. In such cases FIRST RAISE THE RIBS OVER the heart. If that does not relieve give a local treatment, lifting up the uterus, and the effect will be immediate.

In all those FUNCTIONAL HEART affections, there is some bony lesion, usually at the fourth or fifth dorsal vertebra or corresponding ribs on the left side which either disturb the innervation or press directly on the heart.

Pain in the HEART, as in true or false angina pectoris, is the most distressing cardiac reflex, giving the patient the feeling of imminent death. The PAIN is referred to the PRECORDIAL region, back and arm. In the mild forms the attacks last but a few moments and the pain is described as a "**stitch**" in the region of the heart. Accompanying this is a sense of suffocation, the patient struggles for her breath; the left hand and arm become numb, and in some cases cold and rigid. These symptoms are reflex and are explained by the fact that the same segment of the cord that supplies the arm supplies the heart. The suffocating feeling is due to lessened activity of the heart, which follows an improper oxygenation of the blood. This condition in many cases follows a disturbance of the nerve force to the heart, the result of a bony lesion plus pelvic irritation.

THE INTESTINAL REFLEXES which accompany uterine diseases are enteralgia, diarrhea and a catarrhal condition in which mucus is discharged. In most cases a mild form of diarrhea accompanies normal menstruation, as a result of the general

congestion of the pelvic organs. This congestion reaches the bowel and from it results a hypersecretion, causing the increased irritation. This also occurs in certain forms of uterine displacements, usually backward, pressing on the bowel and stimulating instead of inhibiting it. This is not properly a reflex condition since the organs are in apposition.

CRAMPING of the intestines occurs in ovarian diseases, especially congestion of the ovary. It seems to be reflected over the entire abdomen with the pain localized around the umbilicus, in fact patients often say they are suffering with stomach ache.

MUCOUS SHREDS or patches are often discharged from the bowels in cases of chronic uterine disease. They have the appearance of a leucorrhœal discharge and probably depend upon the same causes that produce leucorrhea. In hystero-epileptic patients, this discharge is greatly increased just prior to the attack.

GLANDULAR REFLEXES are most marked in the mammary glands, they being so intimately associated with the generative organs. During menstruation they become tender and congested, and in pregnancy begin to change in color and size. For a week or more after labor, nursing of the baby brings on after pains by causing uterine contraction. In cases of threatened post partum hemorrhage it is advisable to permit the baby to nurse soon after delivery, encouraging, or probably causing, uterine contraction.

In most cases of **mastitis** the TROUBLE LIES IN THE UTERUS. In many cases seen and treated by the writer this could be proven. If the lochial discharge were stopped the mammae became tender, but became normal if further uterine trouble were prevented, THEIR CONDITION VARYING WITH THE CHANGES IN THE UTERINE CONDITION.

In polypi of the uterus they are frequently reflexly affected in that they become tender, engorged and in some cases secrete a fluid similar to milk. In many cases of DISPLACEMENT of the UTERUS some ACTIVITY OF THE MAMMARY GLANDS can be noted. The writer has seen cases of uterine displacement in which drops of milk came from the nipple whenever the gland was squeezed. Flexions were most frequently the only causes to which the phenomenon could be attributed.

At the MENOPAUSE, tingling sensations or even pains occur in the glands. As mentioned under ovarian diseases, inversion of the nipple is indicative of ovarian disease on the same side. Lumps often form in the breast as a result of reflex irritation from uterine disease. In others, a condition of MASTODYNIA is found. In cases of the formation of lumps the physician usually diagnoses the case as one of cancer of the breast and advises removal.

In some the breasts atrophy, in others they hypertrophy. As stated before, the size of the breast is determined by the degree of activity of the sexual organs, the ovaries having the most to do with it.

The **thyroid** gland, the function of which is yet unknown, enlarges at the menstrual period and during pregnancy. Certain forms of goitre are, I think, due in many cases to uterine diseases as an exciting cause while the predisposing cause is a displaced first rib, or a lesion of the lower cervical vertebrae or clavicle. It is exceedingly rare to find a case of true goitre in the male, and this alone is suggestive of some close connection between the gland and the sexual organs.

"Whenever there is a persistent irritation involving the uterine muscles, it will cause a persistent swelling of the thyroid." The globus hystericus is more common at the menstrual time. This is the result of the enlargement thus causing a NARROWING

OF THE canal, which produces the sensation of a knot in the throat. Reed says "women with goitre generally suffer with menorrhagia and metrorrhagia; extirpation of the thyroid is followed by general atrophy. Myxedema in women is generally associated with amenorrhea. In Cretins, there is a diminution and often an entire loss of sexual power. Menstrual symptoms are among the foremost symptoms of exophthalmic goitre."

Ptyalism, or increased secretion of saliva, is one of the early symptoms of pregnancy and is also found associated with menstruation. Often the parotid glands enlarge at this time. The writer had a case in which the salivary glands enlarged soon after the patient gave birth to a child. At a second pregnancy the swelling disappeared but immediately after confinement they became enlarged a second time.

As mentioned before, the tonsils are sometimes reflexly diseased as a result of uterine displacement. Women subject to tonsillitis usually have ovarian disease. In some cases the tonsils become hard and tender at periodic intervals corresponding to the menstrual periods. Parotitis often descends to the ovary, producing a severe ovaritis.

The **sweat** glands are also frequently diseased as a result of uterine trouble, but if inactive, are more often the cause of uterine disturbances. Excessive perspiration is found in some patients. In others the **odor** is very marked and offensive, especially that from the **AXILLARY GLANDS**. In many cases a localized perspiration takes place, sometimes a lateral half of the face being bathed in sweat while the opposite side is perfectly dry. Such a condition is called **HEMIDROSIS**. Cervical lesions were present in all such cases treated by the writer. **Rheumatism** and **RHEUMATOID ARTHRITIS** follow the **RETENTION** of the menstrual flow if the sweat glands are inactive. The skin is harsh and dry

and does not excrete the poisonous elements arising from retention of the menses, hence they remain in the blood and give rise to symptoms closely resembling rheumatism.

HYPERESTHESIA accompanies pelvic disease in many cases. In these cases the spine is irritable and the least cutaneous stimulation produces a marked contraction or even a spasm of the muscles of the body. A light touch is productive of a greater reflex than quite a heavy pressure. In some there are shooting pains in different parts of the body, especially in the intercostal nerves, which come and go, remaining only an instant. In others the PAIN IS REFERRED only to the spinal column and the least irritation excites rigid contractions. In most of the cases I have examined uterine trouble was found. A **DISPLACEMENT**, usually backward with a metritis, is the most common cause producing it. These troubles can be traced back to a hard fall or sudden jar of the body which produced the uterine displacement, this in turn affecting the ovaries and causing hyperesthesia of them.

In some cases there is a **CONGESTION** of the **SPINAL CORD** and **MENINGES**, which keeps the nerve cells and nerves, especially the sensory nerves, in a state of irritation. The supraspinous ligaments are softened and thickened as a result of the increased vascularity and seem to be readily compressed on palpation, this giving a sort of crepitus-like feeling or sensation. **Spinal irritation** is a very common accompaniment of hysteria, the tender spots often changing from time to time and from place to place.

The **treatment** in such cases must be a very gentle and mild spinal treatment by which the hyperesthesia is gradually worked out as the nerves become better nourished and the circulation improves. Bony lesions along the spinal column indicate the points at which the irritation is greatest. These should be care-

fully treated and finally corrected, this being a preliminary step to the correction of the uterine disease or displacement. A **HARD SPINAL TREATMENT** in such cases invariably **BRINGS ON THE MENSTRUAL FLOW**. Local treatment should be given occasionally if there is a displacement, if the uterus does not remain in position after it has once been replaced. The inflammation should be treated and the pelvic circulation regulated.

The **prognosis** is unfavorable for a rapid cure since it takes time to overcome the general run-down condition of the system, but in time a majority of these cases can be cured. Patients have come to the A. T. Still Infirmary that had been given all the ordinary treatments for this condition, without any help. By correcting the bony lesions interfering with the pelvic circulation, these cases have been cured, which goes to prove that the bony lesions were the real cause of the hyperesthesia.

This condition frequently follows typhoid fever as a result of the severe muscular contractions which have pulled the ribs and vertebrae slightly out of place. Some cases are due to an interference with the **CIRCULATION OF THE SPINAL CORD**, and in these as in most other cases, the spinal column should receive the principal treatment, which consists of adjustment of its various component vertebrae.

COLD FEET and hands indicate poor circulation in those parts. In some female diseases the coldness of the extremities is very marked, the hands being cold even on warm days. The circulation **THROUGH THE PELVIC ORGANS** is retarded, affecting the blood supply to and from the lower limbs. The blood is thin and poor in quality; the heart is weakened and unable to force the blood around the circuit and thus overcome the resistance offered by the pelvic blood vessels.

The treatment for such conditions consists in removing ob-

structions to the venous return, which in the lower limbs, are found in the saphenous opening or at the iliac veins. Correcting partial or complete dislocations of the hip and innominate bones, is often sufficient to overcome this condition in the lower limbs. Treat to increase the amount of pure blood and the rapidity of the blood current, this being accomplished by correcting liver and heart diseases as well as local disturbances of the limbs.

HYSTERIA is a term used to denote certain nervous manifestations not due to organic disease. Formerly it was thought to be due to uterine disease, hence its name, but is now regarded as a disorder of the mind, frequently resulting from uterine or ovarian disease.

It is, in fact, a DISEASE, and should be treated as such. If there is a disturbance of the nervous equilibrium resulting from an imaginary or real disease, it preys on the patient's mind until she gives vent to her feelings. When she does give way to her feelings and loses control of herself we call it hysteria.

Hysteria is not by any means confined to the female sex, but also affects the male, although less frequently. Some of the worst cases of hysteria I have ever seen, were in the male in which there was a supposed impotency.

HYSTERIA is most commonly found in the UNMARRIED and STERILE; the shock and pain of childbirth tending to prevent its occurrence in multiparae. Incases of malnutrition, general impairment of the ovary, or in case there has been a marked laceration causing a loss of nerve force, HYSTERIA is liable to appear, since these conditions render the nervous system unstable from the loss of nerve force or the lack of formation of same.

Ovarian irritation is a prolific cause of hysteria. That part of the abdomen over the ovary is especially tender, which is in-

dicative of ovarian congestion or inflammation, and in some cases the ovary is prolapsed and congested from frequent sexual excitements.

Hysteria commonly occurs in people who do not have to work and have time to indulge in morbid fancies. Even a GREAT DEAL OF MUSCULAR WEAKNESS or fatigue **is imaginary**, not real. To test this let there be a sudden fright and the patient will just as suddenly forget all about the supposed weakness.

The **sensory** disturbances in hysteria are quite well marked. In one spot or region there will be hyperesthesia, in another anesthesia, the hyperesthetic regions occurring in zones or belts following the course of one or more ribs. The patient often complains of a certain tender spot which varies from time to time in position, indicating that it is not an organic disturbance.

Others apparently have a fit or faint. In such cases examine the pulse and note the temperature. If the pulse is regular and strong and the patient does not have an abnormal temperature, that is neither too high nor too low, do not be alarmed as death seldom takes place under such conditions. Also examine the PUPILLARY REFLEX. This is done by touching the eyeball with the finger. If it is hysteria, the patient will flinch and suddenly close the eye; if true epilepsy no reflex will be present, indicating complete unconsciousness. Some complain of an acute pain over and in the ovary. If it is real the patient will not forget about it when you change the subject of conversation to one in which she is interested, as she will if the pain is imaginary.

NUMBNESS, OR ANESTHESIA, is sometimes complained of but by severely pinching the parts or touching them with the lighted end of a match the numbness will instantly disappear. If the patient is truly unconscious she will not resist heat; otherwise she

will, since it is impossible to so control the muscles that a reflex action will be prevented when intense heat is applied. Of course it would not be policy to resort to such treatment unless the diagnosis were certain.

GLOBUS HYSTERICUS, or the sensation of a knot in the throat which interferes with deglutition, is a common symptom. This is due to a contraction of the throat, swallowing of air or an enlargement of the thyroid gland. Clavus hystericus is a symptom sometimes found, which is characterized by a sharp, localized pain as if one were driving a nail through the skull.

HYSTERICAL CONTRACTURES and paralyses are found, the patient firmly believing that she can not move a certain joint, and in time the tendons contract producing DEFORMITY of the parts. Hysterical **aphonia** often occurs during the menstrual period. I remember a patient treated at the A. T. Still Infirmary that had complete aphonia at each menstrual period. After some neck treatment, but especially after she was made VERY ANGRY, the voice returned. In many such cases the nervous system has to be changed, this being best accomplished by means of a shock.

QUIVERING of the EYELIDS is one of the best symptoms of hysteria. It shows a forced contraction of the muscles, which finally tire and quiver. In some there is a hysterical COUGH OR CRY, the patient being completely overcome by emotion. Gas is usually found in the stomach and intestines, producing tympanites, borborygmus and eructations. HYSTERICAL FEVERS OR TEMPERATURES have been recorded, in which the thermometer registered as high as 115 degrees Fahrenheit. The HYSTERICAL CRY OR groan is sometimes found. CATALEPTIC OR TRANCE-LIKE conditions or **spasms** with opisthotonus are common in advanced cases of hysteria. The patient tears the bedclothes, RETRACTS the head and cannot be kept in any one position.

The **diagnosis** of this condition is sometimes very difficult as well as important. A sad mistake would be made if a real disease were treated as a hysterical one. If a localized lesion is found, it matters not whether there is a hysterical condition or not, if the lesion is corrected. If the supposed lesion or tender spot varies from place to place it is hysterical. If the temperature and pulse are normal, and there is a knot or swelling in the throat, quivering of the eyelids, pupillary reflex, it occurring at or near the periods, ovarian hyperesthesia and pain, and tender points in the back, changing from time to time to different locations, it is safe to pronounce the case a hysterical one.

The **treatment** is one directed to change the mind into different channels. **Pressure** over the transverse process of the atlas is a good **treatment** to bring the patient out of one of the spasms. Pain produced in any part of the body is often sufficient to change the thoughts and bring the patient to her senses.

The patient should be instructed to make an attempt at **SELF-CONTROL**, not permitting herself to give way to her feelings. Imaginary operations or suggestive treatments are quite successful, if the patient gets the idea that the trouble has been removed. In such cases the various "healers" are successful since there is no organic trouble. Dr. C. E. Still had a patient who believed that all his joints were dislocated and nothing could dislodge that idea until each joint was carefully and separately treated and he told it had been replaced. The patient immediately recovered, since it was only an imaginary disease.

Lesions along the spine and **lower ribs** are to blame for some hysterical cases, by producing ovarian or uterine disease with the accompanying disturbances. The **second lumbar** is the most important point, and in the majority of cases, a lesion will be found at that point. Uterine displacement should be corrected,

and you will find most of them have, to hear them tell it, all the diseases peculiar to the female sex, in fact, they frequently have "UTERUS ON THE BRAIN."

HYSTERO-EPILEPSY is a form of epilepsy due to disease of the generative organs, USUALLY the OVARY. It is characterized by an attack very similar to epilepsy, there being a PRO-DROMAL STAGE in which there are the aura, the stage of CLONIC contraction and the stage of TONIC contraction, followed by the stage of relaxation. During these different stages the patient is in most cases unconscious and sometimes froths at the mouth.

If a chronic case, the patient has that dull, stupid expression characteristic of epilepsy, which is indicative of impairment of the mind. The attacks are most frequent and hardest near the menstrual period and especially just following the cessation of the flow. About the first thing noticed, is a contraction or, as they express it, a ball, lump or knot, that begins to form in the side just above the ovary, the left being more frequently affected. This contraction gradually ascends through the esophagus to the throat and when it reaches that point the patient has a choking sensation and becomes unconscious. This is the DIAGNOSTIC POINT between hystero-epilepsy and true epilepsy. Whenever the aura begin in the ovary and ascend, and if there is chronic uterine or ovarian disease, and the attack is associated with the menstrual period, it is in most cases hystero-epilepsy.

The attacks vary in number from one to a dozen per day, being followed by a quiescent period of several days.

The lesions in such cases are in the cervical and lumbar regions. The lesions affecting the uterus and ovaries are the predisposing causes; the cervical lesions the exciting causes, which weaken the cerebral circulation. Displacement of the lower ribs may excite ovarian disease and in this way produce epilepsy.

A displaced uterus will displace the ovaries, thereby setting up a disease in them. If this were the only cause every displacement would produce epilepsy; but there must be another cause acting in conjunction with the above mentioned ones and this is found to be a LESION IN THE NECK, which weakens the blood supply to the higher centers.

The attacks usually occur at night. There is hallucination, spasms and a quiescent stage, during which the patient has labored respiration and anesthesia. The recovery is gradual and the patient does not remember what has occurred. The urine is limpid and increased in amount, and sometimes involuntarily voided during an attack. In rare cases the tongue is bitten. The muscles are sore and the eyes red after an attack.

The **treatment** consists of correction of the ovarian and uterine disease, and the bony lesions usually found in the lumbar, sacral and cervical regions. A displaced uterus or ovary is usually found, upon the replacement of which the symptoms frequently are relieved. After the attack is well under way it cannot be stopped, but if only in the beginning, strong inhibition in the suboccipital region and local treatment by which the uterus is lifted up will often ward it off.

CATALEPSY is occasionally found accompanying female diseases. The patient becomes perfectly rigid, unconscious and remains that way for some time. A sudden uterine displacement will produce this condition. Dr. C. E. Still reports a case in which a woman was walking along the street and, slipping on the walk, fell and suddenly became unconscious and rigid. The usual restoratives were applied but to no avail. He was then called and by REPLACING THE UTERUS, INSTANTLY relieved the condition. I have had similar cases which were relieved by replacing a displaced uterus or simply changing its position. If the

condition comes on suddenly as the result of a lift or fall the UTERUS IS TO BLAME IN NEARLY EVERY CASE. After the usual treatments have failed to relieve, examine the pelvic organs for uterine displacement, since this is the cause in a majority of all diseases in the female, and particularly if a history of a fall or strain from lifting can be obtained.

MISCELLANEOUS AFFECTIONS.

STERILITY is not a disease within itself, but a result of diseased or badly developed sexual organs. By sterility is meant the **LACK OF CAPACITY FOR IMPREGNATION OR CONCEPTION**. One marriage out of every seven is barren and the per cent. is on the increase. The fault is usually attributed to the female, but the male is very often to blame.

In order to understand sterility it is first necessary to understand the factors that enter into impregnation.

The cortical portion of the ovary contains Graafian follicles in which are the **ova**. At the maturity of a follicle it ruptures, throwing out the ovum which is carried by way of the Fallopian tubes to the uterus. If at this time semen is present in which are the active spermatozoa, union takes place, supposedly in the Fallopian tubes. If the **NIDUS** is healthy enough to nourish the now impregnated ovum, it remains firmly attached to the mucous lining. Therefore, in order that impregnation take place there must be a union of the ovum and the spermatozoon and a healthy nidus from which nourishment can be drawn. From this it can be seen that sterility would follow (1) **ABSENCE** of one or both vital elements; (2) **PREVENTION OF UNION** of the two vital elements; or (3) **DESTRUCTION** of the impregnated ovum just after union had taken place.

ABSENCE of the **spermatozoon** is the result of disease or weakness of the testes. In gonorrheal subjects, or in those addicted to the practice of masturbation, or excessive venery the semen often lacks the vital element. To test the semen, a microscopic examination should be made whereby the sper-

matozoa can be seen if present. They are active and resemble tadpoles in shape.

Ovarian disease, such as ovaritis, tumors, atrophy or non-development, prevents the maturing of the Graafian follicles and escape of the ova, thus producing sterility. In the obese the ovary is usually inactive, hence the amenorrhea and sterility.

Lesions affecting the ovarian centers impair the activity of the ovary and cause sterility. This has been proven by cases treated by us. These lesions also interfere with the proper development of the ovaries and uterus. A poorly or non-developed uterus is very often the cause of sterility. There is usually an ante flexion, the cervix being drawn forward and distorted, and the anterior lip flattened in many cases. AFTER SEVERAL YEARS of MARRIED LIFE the ovaries and uterus sometimes become developed and impregnation takes place. If impregnation does not occur within FOUR OR FIVE years after marriage, the chances are that the CASE IS INCURABLE, although the writer has cured cases of many years standing, by correcting spinal and visceral lesions. A small uterus with a conical or flattened cervix and a pin-hole os is almost pathognomonic of sterility.

The **ovum** may be PREVENTED FROM REACHING the tubes or uterus by disease of the tubes, such as salpingitis or a closure of the canal. The SPERMATOZOON may be prevented from reaching the tubes by an acute flexion, stenosis, atresia of the vagina or a closure of the uterine end of the tubes. Abnormalities which prevent intercourse in a similar way cause sterility.

Diseases of the **vagina** which prevent intercourse, such as vaginismus, vaginitis or an inflammatory condition of the urethra and vulva, also cause sterility. Again, the SPERMATOZOA MAY BE DESTROYED after they have been deposited in the vagina. If the environment is suitable they will live for some time. ACID SECRETIONS destroy them, since they are alkaline.

Leucorrheal discharges, by counteracting the spermatozoa, cause sterility. Metritis and endometritis also predispose to sterility. A LACERATED CERVIX causes both metritis and endometritis with the attending leucorrheal discharge. Endometritis causes sterility, not only by destroying the spermatozoa but by weakening or destroying the nidus which should be ready for the reception of the impregnated ovum. CONSTITUTIONAL diseases such as anemia and scrofula, in which the blood is thin, tend to produce sterility. The ovaries are inactive, the Graafian follicles do not develop and rupture, hence the ovum is not matured.

THE TREATMENT should as in every disease, be applied to the existing cause. Be sure the trouble is not in the husband, for in this age in which gonorrhea and masturbation are so common, the male is very often to blame. If the ovaries are inactive, endeavor to correct the lesions which impair their influence, these being found in the lower dorsal region or in the lower ribs. If there is a flexion or a stenosis of the os uteri, it should be corrected; if leucorrhea exists to any great extent it should be relieved since the acidity will counteract the alkalinity of the spermatozoa. Inflammatory conditions must be overcome before the condition can be cured. The **best treatment**, and the one with which I am most successful, is one applied to the lower dorsal and upper lumbar regions. Strong stimulation and manipulation of the spinal column by which each vertebra is adjusted, **FREE THE BLOOD AND NERVE SUPPLY** to the pelvic organs, which is necessary to their health. If the general health is impaired it will have to be built up, otherwise impregnation will not take place, or, if it does, abortion is likely to follow.

LEUCORRHEA is another condition which is a symptom of **SOME VASCULAR DISTURBANCE** affecting the mucous secreting

glands of the vagina and uterus. It is defined as a muco-purulent discharge, popularly called the "whites," from the female genital tract. The discharge comes either from the vaginal walls or the uterus, hence the division into **vaginal** and **uterine** leucorrhea.

Normally there is a secretion from the vagina JUST SUFFICIENT TO LUBRICATE THE PARTS. This is a clear, transparent, glairy fluid like the white of an egg. That from the uterus is alkaline; that from the vagina acid. When these secretions are abnormal in quality, or especially in quantity, it is called leucorrhea. As mentioned before, an increased arterial blood flow to a gland increases its physiological secretion, while an increased venous flow produces a pathological secretion.

CAUSES. The **cause** of leucorrhea depends upon a **venous congestion** of the uterus and vaginal walls, usually the result of obstruction or vaso-motor paralysis. The use of WARM WATER DOUCHES is a common cause. Nearly all women use them and about ninety per cent. have leucorrhea. They are especially important as causes, if used daily. Warm water DILATES the blood vessels, producing a slowing of the blood current. From this will result a lowering of the vitality of the blood with its increased amount of poisonous materials, which go to make up the venous condition. This affects the activity of the glands and produces a weakness in the uterus and supports, following which DISPLACEMENTS and MENSTRUAL DISORDERS are found. In the parous woman examine for a lacerated cervix. If the injury is very long in healing, the parts become congested and following this is usually an abnormal secretion.

Sometimes an EROSION or ULCERATION is present. In such cases there is a constant irritation, ache, and discharge of a mucopurulent nature.

A displaced uterus causes a congestion of the different glands, hence is a common cause of leucorrhea. The discharge is worse during the menstrual period, since the parts are more congested at that time.

VAGINITIS, either simple or specific, is a cause of the vaginal form. Gonorrheal vaginitis, especially in the latent or chronic form, is quite a prominent cause.

Bony lesions which interfere with the vaso-motor supply, are the most important causes as viewed from the osteopathic standpoint. These lesions are found in the lower part of the spine in the form of a subluxated vertebra or a curvature, and in the pelvic region in the form of a displaced innominate, sacrum or coccyx. Case after case can be cited in which cures were effected by simply correcting the bony lesions.

In some cases leucorrhea is due to GENERAL DEBILITY the result of stomach affections or constitutional diseases. I have seen cases follow attacks of typhoid fever. In such cases a lesion is found in the middle or lower dorsal region affecting the nutrition, AND FROM POOR NUTRITION RESULTS DISTURBED SECRECTIONS. The uterus and vagina share in the general weakness and leucorrhea is the consequence. Remember that a **venous congestion** is a condition ALWAYS FOUND IN LEUCORRHEA, whether due to inhibition of the vaso-motor nerves or a mechanical obstruction preventing free return of the blood to the heart.

SYMPTOMS. The principal **symptoms** of leucorrhea, besides the discharge, are BACKACHE, general weakness and menstrual disorders, especially too long and profuse menstruation. The discharge has in most cases a very disagreeable odor on account of the decomposition which has taken place. If chronic, it desiccates and forms into lumps, while in the early stages it is of a slimy, glairy nature. This discharge, from the color and its ef-

fect on the nervous system, has given rise to the belief among the laity that the white stuff is the spinal marrow which melts and escapes through the genital tract.

During an attack of epilepsy this discharge is markedly increased. Uterine displacements, standing on the feet, and various diseases increase the amount of the discharge. All abnormal discharges, whether the color is white or tinged with blood, are classified under the head of leucorrhea.

PROGNOSIS. The **prognosis** is very uncertain. Some cases yield very readily to treatment, while others are slow. If the cause is readily found and can be easily corrected it is favorable, but if it occurs in an anemic, weak person in whom the blood is thin, the prognosis is unfavorable for a rapid cure.

TREATMENT. The treatment consists in relieving the congestion of the uterus, which is accomplished by locating the cause and correcting it in each individual case. It is one of the most common disorders, and one which is due to MANY CAUSES, hence the treatment must be given according to the causes in the individual case.

In the first place, CORRECT THE BONY LESIONS, whether in the dorsal, lumbar or sacral region; also uterine displacements, since they cause venous stasis. Treat over the veins leading from the uterus, in this way relieving the stagnated condition in the uterus. Strong stimulation of the nerves in the lower lumbar and sacral regions is very good and tends to restore tonicity to the vessel walls. By correcting the anatomical derangements, assimilation is improved, glandular action regulated and secretions made normal. If the leucorrhea is due to a general or constitutional disease, the general health must be improved before a cure is effected. Douches are sometimes necessary for the sake of cleanliness and should be used occasionally if the odor

becomes too offensive. Salt added to the water is of value in cleansing the parts. Some claim that leucorrhœa can be cured by the repeated use of saline injections. Perhaps the secretion can be lessened in amount, or even temporarily checked, but the cause remains and the effect will return.

I once heard the "Old Doctor" say that the exudate thrown out in tonsillitis or in any sore, that is the scab, IS FOR THE PURPOSE

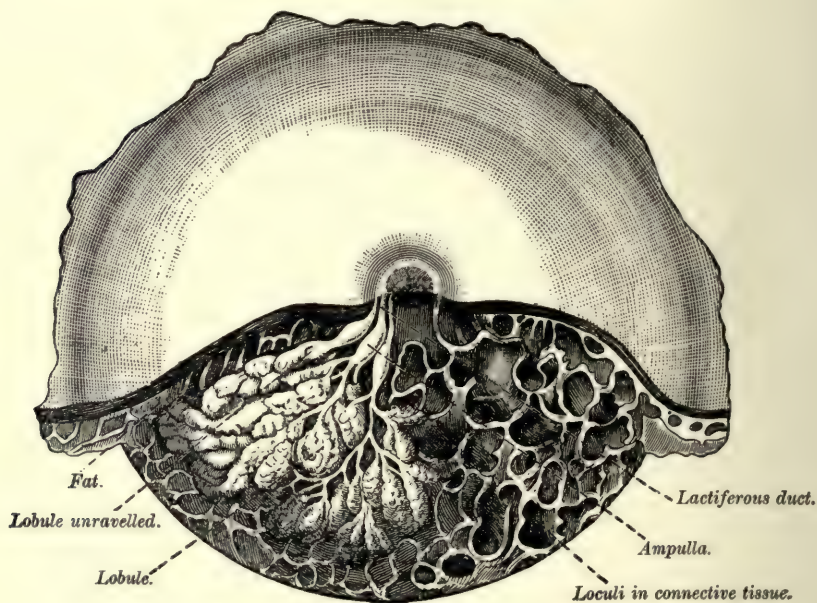


Fig. 108.—Dissection of the lower half of the female breast during the period of lactation.—(Luseka.)

OF PROTECTING THE INFLAMED OR DISEASED SURFACE which it covers. Perhaps leucorrhœa acts in a similar way; that is, the uterus and vagina throw out a secretion which coats the inflamed mucous membrane, thus protecting it. If this is true, it suggests that primarily, leucorrhœa is due to an inflamed surface

which nature is trying to protect and that astringents used to destroy or remove this secretion are injurious rather than helpful. We know this is true of the various throat washes or gargles, such being harmful in tonsillitis and pharyngitis. In the very chronic cases in which the secretions have been deposited in quantities in the fornices, they should be removed. This can be done with dressing forceps and absorbent cotton.

MASTURBATION is a vice which has become very prevalent. Although not practiced so extensively by the female as by the male, its effects can be seen depicted on the faces of many. In some it is the result of disease; in others it has been brought on by obscene literature or bad associations. A **lesion** which stimulates the **PUDIC** nerve will often lead to masturbation. This lesion is usually found in the lower dorsal region. An adhered clitoris, uncleanliness or pruritus vulvae are common causes. It is most commonly found in the young, but occasionally in the adult.

“A very serious mistake in general is made as to the location of the parts which play the chief part in the orgasm. The clitoris in the female is usually put down as the part chiefly involved. Whether in the male or the female, the urethra is the part in which the orgasm occurs. In the male it is caused by the passing of jets of semen over the mucous membrane of the urethral canal. In the female, by jets of mucus from the neck of the bladder through the urethra. After an orgasm in the female, however produced, the labia and vestibule are flooded with mucus, which escapes not from the vagina altogether, but largely from the urethra. The reason why males who have suffered amputation of the glans, and women who have been deprived of the glans of the clitoris can still accomplish the sexual act with orgasm, is because the urethra is the seat of the peculiar nerve

distribution necessary for its production. This explains the habit of some individuals of passing all manner of objects into the urethra, and even masturbating that way."

SYMPTOMS. Masturbation, at first, if not excessive, presents no special symptoms. If excessive, it first shows itself in the form of nervousness. The complexion is pale, sallow, and the eyes sunken and surrounded by dark rings; the patient is bashful and has a secretive, downcast expression; the hands and feet are cold, the skin clammy, circulation poor, there being a small, rapid, weak pulse and shortness of breath. The general health becomes deteriorated and the patient non-energetic. The step is not elastic and the victim is given to MORBID FANCIES. IN CHILDREN CONVULSIONS OR SPASMS MAY DEVELOP, which are very hard to understand. I have seen cases of spasms which would occur only at night, cured by correcting a diseased clitoris which had brought on masturbation. In describing the signs Dickinson, in *American Gynecology*, says: "The type of full development of the deformity consists in a finely wrinkled and deeply pigmented enlargement of the labia majora and hypertrophy of some adjacent structures. Thickened, elongated, curled on themselves, thrown into tiny, close-set, irregular folds that cross at all angles, as in a cock's comb, the lesser labia protrude in all positions through the larger labia. The pigment deposit varies with the general type of coloring. One labium is sometimes greater than its fellow. The follicles are often conspicuous as whitish spots, the prepuce commonly, and the fourchette occasionally, participate in the corrugation and duskiness, or one of these may alone be affected. At times a wrinkled band runs off to the labium majus. Certain veins near the clitoris stand out. At the mouths of each urethral gland a flap-like protrusion may be seen. Greater size and power of the pelvic

floor accompany the other hypertrophies. Distinctive increase in the size of the clitoris may be present, but contrary to the general belief, it is infrequent. There may be enlargement and changes in the areolae or in the breasts, resembling those of pregnancy. At a later stage flabbiness of the labia majora, or pigment spots denote atrophy of the structures once enlarged, but the small marks never disappear. Some part or the whole of these alterations occur in about one third of those women who suffer from pelvic disorders. One fourth of the patients presenting hypertrophies belong to the neurotic class. These alterations are due to oft-repeated, prolonged sexual excitation, irrespective of coitus or gestation. Pressure or friction causes them. Pregnancy produces increase of size and some surface irregularity, but never the fully developed changes here specified."

The most important **effect** of masturbation is on the NERVOUS system. Nervousness, morbid fears and fancies, melancholia, solitude and loss of memory are common. In nearly all cases there is ovarian pain, the result of repeated congestion of the ovary. Another effect is that of bowel disease. One writer says: "Next in importance is the disturbance of the intestinal functions. Intestinal indigestion, distention with gas; wakefulness, as a consequence, is common in these patients. A peculiarly obstinate constipation is a most common accompaniment. During the manipulation of the genitals, the sphincter and levator ani muscles are CONTRACTED TO THE UTMOST. It is a part of the process whereby an orgasm is produced. The result is a TONIC CONTRACTION OF THE SPHINCTER ANI MUSCLE. Constant taking of laxatives or cathartics adds to the trouble by destroying the muscular tone of the rectum and colon. An examination of the rectum in these cases shows the mucous membrane relaxed and frequently in deep and multitudinous folds, filled

with glairy mucus; the sphincter will scarcely admit the well-oiled finger."

TREATMENT. The **treatment** consists of two things; first, bringing to bear a moral suasion if the patient is accountable; second, removing the source of irritation which provokes the practice. In those who are naturally passionate a **VEGETABLE** diet, as well as morality, should be enforced.

Work, either physical or mental, by which the mind is busied, is one of the best remedies. If the patient is idle, with nothing to occupy the mind, masturbation is very apt to be contracted; but if the mind is busy there is no room for evil thoughts. **THE BLOOD IS DISTRIBUTED TO EVERY ORGAN ACCORDING TO THE ACTIVITY OF THAT ORGAN.** If the patient constantly has sexual irritation from the influence of the higher centers, the organs become congested and secretions increased. Cold baths are beneficial in that they stimulate the circulation and cause equal distribution of the blood. Again, if there are lesions they should be removed. I have seen cases of **NYMPHOMANIA** cured by correcting a lesion at the **TENTH DORSAL VERTEBRA**, which in some way caused a stimulation of the pudic nerve.

The removal of smegma or local accumulations of filth about the clitoris is necessary, since any local irritation has a tendency to lead to the condition. **SLEEPING ON THE BACK** is contra-indicated, since the centers in the cord controlling the sexual organs become congested and deranged by the settling of blood, that is, the hypostatic congestion while in that position.

ABORTION is technically defined as the expulsion of the products of conception at, or before, the third month, but ordinarily it is understood to be the **TERMINATION OF PREGNANCY** before the seventh month or viability. Abortion occurs quite often; at least twenty-five per cent. of all cases of pregnancy abort, and

the practitioner will be called upon to treat such cases, or at least to diagnose them. In some, abortion becomes habitual. The WRECK of many a WOMAN'S CONSTITUTION can be traced to one or repeated abortions. It may occur at the first month, the patient thinking it a case of membranous dysmenorrhea accompanied by flooding, or it may occur at the third month, at which time it is most common, probably on account of the formation of the placenta at this time.

CAUSES. Abortion depends especially upon one thing, viz: **STRONG UTERINE CONTRACTION**; consequently, anything that will bring on marked uterine contractions will bring on abortion. A weakened attachment of the embryo is a predisposing cause. It may be caused by disease of the fetal appendages, malposition of the placenta and abnormalities of the cord. **PATERNAL** causes are sometimes found, such as syphilis, or where the spermatozoa are weakened from constitutional diseases, venereal diseases, excesses, masturbation or extreme old age. **MATERNAL** causes are common, such as the exanthemata or other diseases, systemic poisons, or lesions along the lower part of the spine. These lesions weaken the uterus, hence the attachment of the ovum is insecure. **ALL FORMS OF TRAUMATISM**, such as blows, strains or the lifting of heavy weights, produce abortion if there are any predisposing causes. The **INTRODUCTION OF INSTRUMENTS INTO THE UTERINE CAVITY**, such as a sound or catheter, persistent vomiting, hiccoughing or sneezing may produce it. It may be brought on by various reflex causes, such as violent emotion or sudden excitement, if severe enough, or if there is a marked predisposition.

Produced abortion is the result of the introduction of instruments into the uterus or by the ingestion of certain drugs, such as tansy, ergot or pennyroyal.

To the osteopath the LESIONS ARE THE MOST IMPORTANT, and if such exist in a pregnant woman, be very careful NOT TO PRODUCE PAIN while treating the patient, since abortion may occur. Again, by PROPERLY TREATING SUCH LESIONS, ABORTION MAY BE PREVENTED.

SYMPTOMS. The symptoms vary with the stage to which gestation has advanced. The prodromal symptoms are: sense of discomfort in the pelvis, pain in the lumbar and sacral regions and a general uneasy feeling. These symptoms are followed by hemorrhage, uterine contractions or labor pains and finally by the expulsion of the embryo or a part of the products of conception.

The cervix, on local examination, will be found soft and the os patulous, if it is a case of INEVITABLE abortion or if it has already taken place. The mammary glands will be found enlarged and the milk secretion will usually occur at the third day after abortion.

The diagnosis is made by finding the embryo or its membranes. Often these are lost, the mother not thinking of their diagnostic value, thus making it hard to diagnose. If there is retention of the membranes it may give rise to puerperal fever, or if chronic, the symptoms may be similar to those of a dead fetus, cancer or sloughing polypus.

The AFTER EFFECTS or sequelae are of most interest to the gynecologist. The local after effects are those resulting from subinvolution. The uterus remains large, soft and vascular for several months; a relaxation of the uterine supports permits displacements to occur from any exciting cause; the vaginal walls are smooth, that is the rugae are absent, but folds of mucous membrane are present in their stead; the os is patulous, the cervix short and thick. LEUCORRHEA in a very bad form usually com-

plicates. The **nervous symptoms** are the most important, the patient sometimes becoming a nervous wreck. Neurasthenia, nervous prostration and general malnutrition are common sequelae.

TREATMENT. The **prophylactic** treatment consists in correcting lesions which weaken the uterus, and PREVENTING any EXCITING cause which would bring on uterine contractions. Avoid strains, traumatism and emotional excitements, since they produce abortion if any predisposition exists.

The TREATMENT of **threatened** abortion consists in putting the patient to bed and keeping her perfectly quiet with the hips elevated. Stimulation of the clitoris causes contraction of the cervix; this is accomplished by pressing on the clitoris with the thumb and then letting it suddenly slip off. This is productive of pain which causes retraction of the uterus. If the cervix is not obliterated and os has not dilated to any degree, the abortion can be stopped in this way.

Inevitable abortion follows dilatation of the os uteri. In such cases the treatment is almost identical with that given in normal labor, that is, inhibition of the clitoris to relax the cervical muscle fibers, and stimulation of lumbar region to bring on contraction of the fundus or labor pains. If the membranes are not expelled on account of non-loosening of the placenta and NO HEMORRHAGE IS PRESENT, wait awhile for the uterine contractions to loosen it. After the placenta has been separated from the uterus, remove by means of a pair of abortion forceps. Produce contraction of the uterus to prevent hemorrhage, keep the patient quiet until involution is well under way, and the recovery is, as a rule, rapid.

The **diagnosis** is the principal point of interest to the gynecologist, and to be sure of this, consider the early signs of preg-

nancy, hemorrhage, size of os, onset, reflex disturbances and history of case. All HEMORRHAGES IN MARRIED WOMEN are to be regarded with suspicion.

The IMMEDIATE DANGERS are hemorrhage, laceration and puerperal fever from retention of a part of the fetal membranes. The SECONDARY DANGERS are habitual abortion, uterine displacements and subinvolution, which cause chronic backache, headache, menstrual disorders, inflammation of the uterus, and a general sense of weakness or fatigue.

ECTOPIC GESTATION and extra-uterine pregnancy are terms used to denote that gestation has occurred outside of the uterine cavity. It is a rare condition, but is occasionally found. It may take place in the TUBES, PERITONEAL cavity or the OVARIES. It is supposed to be due to retention of the ovum in those places from some interference with its transmission to the uterus, and the union with the spermatozoon therefore taking place at that point. Chronic salpingitis, displacements of the ovary or chronic peritonitis tend to destroy the ciliated epithelium, therefore preventing the transportation of the ovum to the uterus. Since the ovum is not self-mobile and depends upon the external influences for its movements, and the spermatozoon has the power of locomotion, therefore if the ciliated epithelium were destroyed the ovum would be retained in the peritoneal cavity while the spermatozoon would travel upward through the tube unless the lumen were completely occluded.

The **symptoms** of extra-uterine pregnancy are very similar to those of normal gestation. The reflex symptoms are the same; the gastric disturbances are even more marked. Menstruation usually ceases, but in some cases it is not disturbed; in others it is irregular. There is a discharge of blood mingled with SHREDS OF BROKEN DOWN DECIDUAE. This symptom indicating the for-

mation of the decidua vera is one of the most important. The uterus is somewhat enlarged but not so much as in normal pregnancy. The tumor is found at the side of the median line. It is PAINFUL and GROWS rapidly, and on bimanual examination is found to be fluctuating, soft and very sensitive. Pelvic pains are usually very sharp and tearing in character.

A **positive diagnosis** is impossible before rupture of the sac, which occurs at about the fourth month. However, if the **EARLY SIGNS OF PREGNANCY ARE PRESENT**, early appearance of sharp, cramping, pelvic pains, irregular hemorrhages, the uterus not very much enlarged, os dilated and cervix soft, and shreds of deciduae discharged, it is probably a case of extra-uterine pregnancy. If, in addition, a sensitive, soft, rapid-growing tumor is located in the region of one of the Fallopian tubes, it indicates ectopic gestation. The treatment, which is surgical, consists of the removal of the mass by abdominal section. If rupture of the sac does not occur, as it usually does at the fourth month, it may be retained for years, being partly absorbed and mummified.

At term the mother has what is called **SPURIOUS** labor, since she has all the symptoms of labor without expulsion of the fetus. If rupture takes place death usually follows, unless prevented by surgical intervention.

THE MAMMARY GLANDS are the seat of a great many disorders, many of which are reflex from the pelvic organs. Since they are a part of the sexual system, the gynecologist will be called upon to treat disorders occurring in them.

They are two glands which extend from the third to the seventh rib, from the sternal border to the mid-axillary line. Their size and prominence depend upon a great many things, but principally upon **SEXUAL ACTIVITY** and whether the patient is a nullipara or multipara. The nipple is located on a level with the

fourth rib and is directed outward and upward. The integument covering the nipple is pigmented, the amount varying with the complexion of the patient and whether pregnancy has existed. The gland proper is composed of separate glands, about twenty in number, which open by half as many ducts at the nipple. The nipple has unstriped muscle fibers, on account of which erection may take place.

The **BLOOD VESSELS** come principally from the mammary artery by way of its perforating branches through the second, third and fourth intercostal spaces. Some branches from the axillary artery also supply the gland. The **veins** accompany the arteries. The **LYMPHATICS** are very numerous and communicate with the axillary lymphatic glands. The **NERVES** come from the cervical plexus and the fourth, fifth and sixth intercostal nerves, which are accompanied by sympathetic filaments.

THE FUNCTION of the mammae is to secrete milk for the nourishment of the child for the first twelve months. They have a very close connection with the pelvic organs so that disease of one affects the other. Stimulation of the nipples produces a contraction of the uterus and excites sexual desire. Immediately following labor the nursing of the child causes an increase of the lochia, since uterine contraction follows the stimulation caused by nursing; and on this account the child should be placed to the breast as soon as possible after labor.

The **size** of the gland depends, in most cases, upon the amount of sexual irritation and the age at which puberty appeared. In **THE YOUNG**, very **LARGE MAMMAE** denote **PRECOCIOUS SEXUAL DEVELOPMENT**. This development or early puberty follows masturbation or sexual excitement from other causes. In others the glands are naturally large. If there is atrophy or non-development, it indicates that the ovaries are not very active and that

the sexual sense is not very well developed. In treating such cases attention should be given the PELVIC ORGANS as well as the RIBS upon which the glands lie.

DISEASES. The most common disease found is some enlargement or tumor. These enlargements are usually in the lymphatic glands, but are occasionally located in the lactiferous glands.

The lymphatic enlargements occur at the base. At first it is a kernel about the size of the end of the little finger. It is freely movable and slightly tender on pressure; enlarges very slowly, if at all, and if it is very hard runs a chronic course. It gives rise to no physical inconvenience, but to a great deal of mental anxiety. It is innocent in character unless worked with too much or bruised by manipulation or operations.

A rather curious thing is noted in many cases of POST-PARTUM MASTITIS. If the lochia is abnormal in any way, the breasts are IMMEDIATELY AFFECTED; and I believe that in ninety per cent. of all cases of mastitis, the TROUBLE is, to a great extent, IN THE UTERUS, such as retention of a part of the placenta or lochial discharge. In some there is a PARTIAL INVERSION which keeps up an irritation, resulting in subinvolution with hemorrhage. In one case of mastitis in which an abscess formed in the breast, there was a discharge from the uterus. It was of a greenish color, and when it was lessened the discharge from the breast increased and seemed to be identical in composition with that from the uterus.

The **treatment** for mammary diseases in general, consists of correcting the second, third and fourth ribs so as to permit of a free lymphatic circulation, as well as that of the blood. Treatments given directly to the enlargement should be very light and I doubt if they are ever indicated. Massage of an inflamed breast

for the purpose of emptying it of retained milk is helpful, if properly performed.

Sometimes **FIBROID TUMORS** are found in the gland. They are very similar to an enlarged lymphatic gland but are harder, not so tender, and their growth less rapid. They most commonly follow injuries of the ribs, strains of the muscles, traumatism or direct injuries to the glands or muscles in that region. Their course is chronic, growth very slow, and need cause little alarm unless bruised, when they may develop into malignant tumors such as a sarcoma or a malignant adenoma. The treatment consists in freeing the circulation to the gland and of gentle manipulation to the tumor itself. Operations should be avoided if possible, since they often excite malignancy on account of the injury to the tissues.

CANCER of the breast is usually of the scirrhus variety. It is found in the glandular substance proper, and is in most instances, the result of bruising of the gland. This bruising may be from accident, too hard a treatment, prolonged nursing or an operation whereby the gland is laid open. It generally begins in **SMALL HARD LUMPS** in the substance of the breast. Its growth is at first slow, but afterwards rapid. It is located very close to the nipple, and on this account the nipple becomes **FIXED** and **RETRACTED**. The skin finally gives way as the swelling increases and a foul ulcer is formed. The lymphatic glands become involved and are swollen and tender. The movements of the shoulder and arm are hindered since the pectoral muscles are affected. Soon in a bad case, the constitutional symptoms of cancer appear, followed by death.

The **diagnosis** is based upon the retraction of the nipple, induration, rapid progress of the disease, tenderness, ulceration and the constitutional symptoms. A great many cases of **SIMPLE**

TUMORS are MISTAKEN FOR MALIGNANT or made malignant by operation. If a lump is found in the breast and it becomes tender, an operation is at once advised. In our practice we have cured a majority of cases of supposed cancer by correcting a displaced rib or ribs. The third or fourth rib is usually found twisted, producing tenderness at the junction of the ribs with the costal cartilages, stagnation of the lymphatic and venous circulation with engorgement of the lymphatic glands both in the mammae and axilla. A retracted nipple may result from ovarian disease or non-development but coupled with other cancerous indications, aids in making up the diagnosis.

TREATMENT. The **surgical treatment** is extirpation of the gland as soon as possible. The osteopath advises removal, if the disease does not yield to treatment after a sufficient trial has been given. This treatment consists in correcting displaced ribs, the most common being the second, third or fourth, and in correcting lesions of the corresponding vertebrae.

The **symptoms** of the **rib displacements** are, tenderness at the articulations or along the course of the rib, and irregularities of the ribs such as undue prominence of one of the edges or ends.

TREATMENT OVER the tumor is rarely given if tenderness is present, since it increases the irritation and inflammation. The PAIN in the breast is most commonly in an intercostal nerve and by raising the ribs and using inhibition at the vertebral end, it can be relieved. **Remember** in mammary affections that the enlargement is due in most cases to swelling of the lymphatic glands or a subluxated rib; that the pain is intercostal and due to a disturbance of the intercostal nerve; that operations can be avoided, hence the prevention of malignancy in a great many cases; and that the prognosis is good in most mammary affections. If the case is one of true carcinoma relief can be given but a cure is not probable.

CHLOROSIS is a term applied to an anemic condition in young girls at or just after puberty, which is the result of impoverished blood. The common name is "green sickness," so named from the yellowish green color of the complexion.

The causes are **HYGIENIC**, **DIETETIC** and **LESIONS**. Girls who are closely confined to a **STUFFY ROOM**, **ILL-FED**, **OVER-WORKED**, and who take little or no exercise in the open air, are the ones most likely to be attacked. If the patient is approaching, or has just passed puberty, the greater the likelihood of the disease developing. Although such environment and poor food tend to bring on the disease, back of it all are **LESIONS** affecting the nutrition of the body. These **LESIONS** are most frequently found in the third, fourth and fifth thoracic vertebrae. The spine is flattened at these points, affecting the **LUNGS AND HEART**, the two important organs which have to do with the quality of the blood and its circulation. The heart is affected in these cases, being weak and irritable. The quality of the blood is impaired, there being an anemic state, the red corpuscles being lessened in number and deficient in hemoglobin, hence nutrition suffers. On account of the blood changes the complexion is peculiar, in that it has a yellowish green tinge. The patient tires easily on exertion, there being shortness of breath and palpitation of the heart. The **PULSE** is accelerated and easily compressed. **DIGESTION** is impaired and the patient often has a depraved appetite, such as a desire for crayon, slate pencils, etc. The bowels are sluggish; in fact, the entire gastro-intestinal tract is impaired, this being one of the complications of poor nutrition and assimilation.

Menstrual disturbances are common, amenorrhea being the usual form. In a small per cent. of cases menorrhagia is present. It seems that the blood loses its power to coagulate, hence when the flow once starts, it continues longer than the normal, since

an internal clot forms with difficulty, the formation of such a clot being nature's method of checking any hemorrhage. The EYEBALLS usually have a PEARLY or BLUISH TINT sometimes quite noticeable.

The treatment from a medical standpoint is the giving of iron in some form. Many claim it to be a specific, yet one writer says that "THE BODY CAN GET MORE IRON OUT OF A CABBAGE LEAF THAN FROM A SPOONFUL OF THE DRUG." The osteopath believes in giving iron, but in the form of fruits, etc., the highly colored fruits containing an abundance of iron in a form that can be assimilated. Good air, exercise and deep breathing are almost essential in the treatment of chlorosis if good results are expected. These coupled with the correction of the spinal lesions mentioned above will cure in 95 per cent. of cases. On account of the weakness of the abdominal wall and the frequency of enteroptosis, lifting up treatments should be applied to the abdomen. This is of assistance in relieving the constipation and promoting assimilation.

LACK OF ORGASM. Orgasm is the "crisis of venereal passion." The writer's apology for discussing this subject is the fact that there are so many cases in which the SEXUAL PASSION IS DIMINISHED OR ENTIRELY **lost**, thus making the sexual act positively repugnant. Such conditions give rise to conjugal unhappiness and many a divorce proceeding has for its real cause some disorder like the above.

Orgasm depends upon a healthy condition of the PUDIC nerve. There must be erection of parts, that is of clitoris, vagina and lesser lips, and a sensory nerve connecting parts with the center in the spinal cord and brain. The pudic nerve ends in the clitoris and is the sensory nerve by which the impulses are carried to the spinal cord. ANYTHING IMPAIRING THE FUNCTION

OF THIS NERVE, that is peripherally or along its course, or a diseased condition of the spinal cord, thus interfering with the reception of the impulses will THUS INTERFERE with orgasm.

The MOST IMPORTANT of all causes is a DISEASED condition of the CELLS in the SPINAL CORD. They are in such a condition that they do not receive impulses carried to them over the pudic nerve. This may be the result of an error in development. The writer has one patient, one of twins, in which these cells were never developed, at least the parts remain perfectly passive during coitus, there being no indication of sexual passion. Most cases come from lesions affecting the cells of origin of the pudic nerve, ranging from the tenth dorsal to the fourth lumbar vertebra, or from sexual abuses such as excesses. The most common lesion is found in the lower thoracic region.

The **symptoms** consist of a perversion of the sexual act in which voluptuous sensation is lessened or entirely lost. Sterility, atrophy of the ovaries and a lessening of the vaginal secretions complicate. Menstrual disturbances are often found, such as amenorrhea and delayed menstruation. The general effects are often marked, the most important being despondency and nervousness. The patient looks on the dark side of things, has the "blues" and is in an unsatisfied, restless condition. Most of the time the marital relations are unsatisfactory and often separation follows.

In the acquired cases, cures have been performed by correcting the spinal cord disturbance. This was accomplished by securing good, normal circulation to and from the spinal cord and relieving the pressure on the pudic nerve. These things are accomplished by adjusting the spine, there being lesions which are responsible. SEXUAL REST must be secured or at least the function properly regulated.

In the congenital form little or nothing can be done, at least the writer has failed in such cases. The subject is one of vital importance since so much mental suffering is entailed by it.

SCIATICA complicating uterine disease, is very important although not noted or treated in the vast majority of cases. **Sciatica** is a painful condition of the great sciatic nerve due to congestion or inflammation of the nerve. In the MILD types ONLY CONGESTION exists, but in the more aggravated types a true neuritis is present.

The causes of sciatica in the female can be included under two heads; INFLAMMATION OF THE UTERUS OR ITS ADNEXA, OR PRESSURE ON the roots of the nerve; and a LESION of one or more of the BONES FORMING the PELVIS, most frequently a backward twist of the innominate bone on the affected side. I BELIEVE THAT A MILD TYPE OF SCIATICA COMPLICATES EVERY CASE OF METRITIS. There are several explanations for this: one is that the VENOUS DRAINAGE of the nerve is affected by a stagnation of the blood in the pelvis and this condition is always present in metritis. The blood is forced back along the veins, the nerve congests, the vascular pressure is thereby increased and pain follows; yet in most cases this pain does not occur except on artificial pressure, whereby the vascular pressure is increased. The NERVOUS CONNECTION furnishes another explanation. The SAME SEGMENT of the cord which gives ORIGIN TO THE GREAT SCIATIC NERVE, CONTAINS the CENTER for the NERVES OF THE UTERUS. A stimulus applied at the visceral end will cause an effect, motor or sensory or both, in the posterior or in the other anterior branches. Possibly Head's law will best explain the secondary disease. The SAME LESION WILL PRODUCE BOTH DISEASES; that is, uterine disturbances and sciatica. This to the osteopath is the most plausible, since few vascular diseases, and I mean congestion and in-

flammation of the female genitalia, are not caused or exaggerated by some lesion of the bony pelvis. This, therefore, leads us to the most important cause of sciatica in women, viz: a subluxation OF THE INNOMINATE. The particular type of lesion is a BACKWARD ROTATION which is the most common of all innominate lesions, for reasons named later. This lesion affects the sciatic nerve since it is in relation with its roots and course. This lesion affects the vaso-motor nerves of the sciatic nerve and the uterus, thereby causing vascular disturbances in both. Also as stated above, the lesion is responsible for both the uterine disease and the sciatica, hence it is not a purely reflex disturbance as it is supposed by many to be.

Some cases of sciatica are due to PRESSURE OF AN INFLAMED UTERUS on the roots of the sciatic nerve. One of the worst cases ever treated by the author was due to a retroflexed uterus which had adhered to the nerve. The ordinary treatments had little effect and an operation was advised. Abdominal fixation was performed, which resulted in a cure.

The **indications** of **sciatica** are pain or ache along the course of the nerve, being most intense at points at which the nerve is most superficial, coldness of limb, cramping of hip or limb and distinct tenderness on pressure at a POINT MIDWAY BETWEEN the TUBEROSITY of the ISCHIUM and the GREAT TROCHANTER. The author makes it a routine practice in the examination of all cases of female disease to make this test; that is, PRESSURE OVER THE NERVE AT THE ABOVE MENTIONED POINT. When sciatica is thus diagnosed, a better explanation of limb disturbances is furnished.

The **treatment** consists in correcting the bony and visceral lesions, viz: the luxated innominate and the uterine displacement, or if these do not exist, relieve the pelvic congestion or inflammation.

EYE STRAIN or severe aching of the eyes is often associated with uterine disease. The pain is either in the ball of, or just immediately above, the eye. There is usually an error in refraction as the predisposing cause. The pain is a great deal worse during the menstrual period. I recently had a case in which the ache could not be relieved by the ordinary neck treatment, but when the uterine displacement was corrected, the pain instantly left. The seat of the pain is in the fifth cranial nerve, the reason being that it has such a CLOSE CONNECTION WITH THE SYMPATHETIC SYSTEM by the numerous sympathetic ganglia situated upon it.

PIGMENTATION of the skin is sometimes found as a result of female disease. I treated a case of retroflexion of the uterus, with irregular or delayed menses, in which PIGMENTED SPOTS about an inch in diameter would appear in crops on the chest and neck. These spots are usually called liver spots and are attributed to some liver disturbance. The liver is usually to blame, but not always, since I have cured many cases by relieving the pelvic disturbances. In some cases of uterine disease a diffuse pigmentation occurs, assuming the form of a pasty, dirty brown color. The complexion is very sallow and cadaverous; the skin appearing to be dead. THIS FORM OF PIGMENTATION OCCURS ESPECIALLY IN DEGENERATIVE DISEASES OF THE OVARIES, such as CYSTIC DEGENERATION. It also occurs in renal and capsular diseases.

LEUCODERMIA is in some cases due to pelvic disease. The writer has treated and seen cases treated of this kind in which there were irregular white patches covering the entire body. In most of these cases uterine disease was present and when corrected the white patches disappeared. The most common form of uterine disease was metritis complicated by displacement and

menstrual irregularities. Leucodermia occasionally appears in the male.

During pregnancy yellowish brown spots appear on the face and neck, sometimes on other parts of the body. Also they accompany uterine polypi if symptoms of pregnancy are present. The pigmentation will disappear and the skin regain its natural color if uterine and liver troubles are corrected.

CHRONIC INGUINAL AND FEMORAL HERNIA are occasionally met with in the female, though not so commonly, as in the male. If the opening is small and the bowel stays up pretty well, and the patient keeps off her feet and avoids straining herself, the outlook for a cure is fairly good if osteopathic treatment is given. By lifting the bowel and developing the abdominal muscles by certain well directed exercises coupled with some manipulation applied to the affected part, at least relief if not a cure can be effected. If the bowel comes down often, a properly fitted truss should be worn.

Hernia of the partial variety may come on suddenly and produce symptoms of appendicitis and various other acute intestinal diseases. It consists of the bowel being forced PARTLY THROUGH the internal abdominal ring or THROUGH THE OMENTUM. It follows strains or vigorous muscular actions and its onset is very sudden. The pain is very acute and cramp-like. If on the right side it may be mistaken for acute appendicitis or ovarian disease, since the pain radiates upward and is localized in many cases at or near McBurney's point. On palpation the tumor can be felt at the abdominal ring and is very sensitive on pressure. The ovary may be implicated and the pain reflected to the back by way of the ovarian plexus. In either case the patient should be placed in the Trendelenburg position and the intestines lifted out of the pelvis. By a deep gentle manipulation of the abdomen

with an upward motion this can be accomplished and the patient instantly relieved.

PHLEGMASIA ALBA DOLENS, or what is commonly called "milk leg," is a disease which follows parturition. The acute form is supposed to be the result of septic infection. The infection takes place primarily in the uterus and extends to the femoral vein, resulting in an inflammation or phlebitis. This results in venous obstruction and enormous swelling of the affected leg. The disease was formerly supposed to be due to metastasis of milk.

The **acute** form starts with a chill followed by fever and painful swelling of the leg. This swelling takes place in most cases from below up and is characterized by a **RED LINE** along the course of the femoral vein and by such a **TENSENESS** that the skin does not pit on pressure.

In cases that do not terminate fatally, the disease runs a chronic course and it is this form that comes within the scope of this work. The chronic form is characterized by atrophy, weakening and loss of sensibility in the affected limb; the limb seems to be dead and is cold a great deal of the time. In some the limb is strong enough to permit standing and walking, in others the paralysis is complete. The chalky, atrophied appearance plus the history of an attack in the limb as a sequel to labor make the diagnosis unquestioned.

As stated above, the supposed cause of "milk leg" is septic infection. The writer believes this to be a mistake and would beg leave to substitute **TRAUMA** as a cause of the disease. The form of trauma is an injury of the **LUMBAR VERTEBRAE**, or of the **INNOMINATE BONE**. During pregnancy all these joints become more movable, this acting as a predisposition to a luxation of either a vertebra or the innominate. During labor the **EXTREME**

AMOUNT OF FORCE brought to bear on these parts sometimes results in a luxation. The most common lesion is a strain or slip of one of the innominate bones. This is true in cases in which the limbs are extremely flexed on the abdomen. In the few cases of milk leg the writer has seen (the careful osteopathic obstetrician prevents the disease) the above mentioned lesion was found and when corrected the patient recovered. In all chronic cases, and we see many, an INNOMINATE OR HIP LESION WAS FOUND IN EVERY ONE. If the case is not too chronic the prognosis is favorable, but if very chronic it, like all chronic cases of long standing, is hard to cure. Also the degree of atrophy and weakness must be considered when making up the prognosis.

The **treatment** is the osteopathic one directed to the correction of the above mentioned lesions. The **prophylactic** treatment consists of a THOROUGH EXAMINATION OF THE HIPS AND INNOMINATES at the conclusion of labor, AND ADJUSTING ANY DISPLACEMENT FOUND. The author usually rotates the hips immediately after labor if patient complains of any pain or cramping in the limbs.

In chronic cases a SUBINVOLUTED uterus may be present which aggravates the condition and must be corrected before a complete cure is effected.

DISEASES OF THE KNEE AND FOOT often complicate pelvic disturbances. **Synovitis** of the knee joint is the most common. There is at first a slight swelling around the joint, usually described as a "puffy" condition, coupled with some tenderness and stiffness. The swelling increases until the knee is very much enlarged, which is attended by the usual symptoms of inflammation.

On local vaginal examination, in many of these cases, an inflamed or prolapsed ovary was found on the same side. These con-

ditions were accompanied by a uterine displacement, it being back and down. The correction of the pelvic disturbances cured all these cases in which the synovitis was secondary. Usually a twisted condition of the innominate is responsible for both the pelvic disease and synovitis of the the knee and deserves first attention. After the correction of the bony lesions, replacement of the prolapsed viscera will result in a complete cure.

THE ERUPTIONS OF THE SKIN in female diseases occur most frequently as a complication of menstrual disorders. The most common, as well as harmless, is, in many women, the **HERPETIC ERUPTION** on the lip at each menstrual period. In others **acne**, in a chronic form furnishes a very undesirable eruption and one for which all kinds of cosmetics are used. It is worse at each menstrual period; and at puberty is often very bad on account of the increase in amount of inflammation, giving the face a mottled appearance. The sebaceous glands fail to perform their function and there is a retention of the secretions, giving rise to irritation and inflammation. In such cases perspiration in the affected region is stopped, the part appearing oily, or as the patient often expresses it "greasy."

An **IMPERFECT EMPTYING** of the uterus at the menstrual period is given as a **CAUSE**. The general change in the blood at the menstrual period, it becoming impoverished, is a better cause. The patient is anemic and mal-nourished, which condition is perhaps a cause rather than an effect. **MASTURBATION** and **EXCESSIVE VENERY** are also mentioned as causes, or rather such conditions are associated. In some cases this is true, that is masturbation is the underlying cause, but eruptions on the face are not necessarily diagnostic of masturbation. There is some relation between the genitalia and skin of the face and back, and in a vast majority of cases a diseased or perverted condition of

the genitalia exists if there are eruptions on face and back.

The **treatment** consists primarily in correcting the **PELVIC DISTURBANCES**, if any exist, and some local treatment to face and neck. The pelvic trouble is usually a menstrual one such as retention of or scanty menses; in others, pathological congestions with hypersecretions, which weaken the body by impairing the blood. The correction of **CERVICAL LESIONS** is important since the vaso-motor supply to the face is affected by such. Pimples follow localized stagnation and putrefaction of blood. A toxic condition from other causes produces inflammation and pus formation, therefore to cure facial eruptions improve the quality of the blood and secure good circulation through the face.

A MOLE OF THE UTERUS is defined as a **TUMOR** resulting from death of the embryo with proliferation of the cells of the deciduae. In missed abortion the placenta or chorion may continue to develop, or at least not loosen and become expelled. The embryo is absorbed and soon a fleshy mass is formed **IN UTERO**. The cause possibly lies in a diseased endometrium.

The most important symptom is **HEMORRHAGE AND PAIN**. The flooding occurs at irregular intervals and is often marked, leaving the patient weak, anemic and very much exhausted. On local examination the uterus is found to be symmetrically enlarged; that is, the patient appears to be pregnant, judging from the shape, tone and position of the uterus. During the attack a part of the mass, which resembles placental tissue, is expelled. At this time the patient appears to be in hard labor and in the cases seen by the author, the pains were a great deal worse than in an ordinary labor case. These uterine contractions keep up until the mole is expelled, this taking quite a while and usually requires assistance in the form of the application of abortion forceps or curettement. If all the growth is not removed it will

continue to enlarge and the patient has another "spell." If the uterus is ENTIRELY EMPTIED of this flesh-like growth it seldom returns.

The TREATMENT, therefore, consists of emptying the uterus of this mass which can best be accomplished by the use of the dull curette.

In DIAGNOSING this condition remember that most of the EARLY INDICATIONS OF PREGNANCY ARE PRESENT, which things are of assistance in differentiating it from subinvolution and fibroid tumors of the uterus.

There is a rare form called false mole, which is not dependent on pregnancy. This form is derived from fibroid tumor, endometritis, in which there is a desquamated cast of the mucous membrane, or retained coagula of menstrual blood. The treatment is about the same in all forms, viz: securing expulsion. In the false form, resort is seldom made to the use of instruments, the tumor being expelled by securing contraction of the uterus.

LEUCORRHEA IN CHILDREN occasionally occurs. It, like the adult form, is caused by congestion of the vagina or uterus, usually the former, There are two causes responsible for the cases treated by the writer, viz: lesions along the lower thoracic and upper lumbar spine, and specific infection setting up a catarrhal condition of the vaginal mucous membrane.

The **diagnosis** is based on the lesions found and the microscopical examination. A cure can be effected in nearly every case produced by the first named cause. This is accomplished by correcting the spinal lesion. The cases belonging to the second named cause are DIAGNOSED by finding the gonococci in the discharge; and TREATED by applying antiseptic solutions to the diseased area. (See specific vaginitis.)

DISEASES OF THE RECTUM AND ANUS. A great many diseases of the rectum and anus in the female are secondary to pelvic disorders. This is explained by the PROXIMITY OF THE BOWEL with its nerves and blood vessels, to the uterus and its adnexa.

The **rectum** commences at the sacro-iliac synchondrosis with which it is in close relation, crosses to the middle of the sacrum, sometimes past the median line, and then passes down between the sacro-uterine ligaments to the uterus. The upper part is invested with peritoneum while the lower part is not, it being in direct relation with the vagina anteriorly, and the coccyx and levator ani posteriorly. The upper part of the rectum is in relation with the cervix uteri and with the body and fundus when the uterus is retro-deviated, hence the importance of examining for uterine trouble in cases of disturbance of this part of the bowel. The rectum is drained by the hemorrhoidal plexus of veins. This plexus anastomoses with the other plexuses in the pelvis. The blood vessels that drain the rectum drain the uterus; and the nerve plexus that supplies the one, sends filaments to the other. This furnishes another explanation for diseases of the rectum complicating uterine disease.

The **anus** is the external aperture of the intestine. The orifice is surrounded by integument puckered into folds, which is the result of contraction of the sphincter muscles. The lining of this portion of the intestinal tract is smooth and is subject to relaxation and prolapsus. The principal thing to remember regarding the anus is that the ANAL BRANCH OF THE PUDIC NERVE SUPPLIES THE LOWER PART, hence the sexual derangements following diseases of the anus.

The injuries of the rectum, except those from direct trauma as in falling on a sharp object, come almost entirely from parturi-

tion. Laceration of the perineum, pressure on the bowel by the descending head of the fetus resulting in eversion of the anus, and over stretching of the posterior vaginal wall which results in rectocele are the common injuries from childbirth. Complete laceration of the perineal body is the worst form of injury and results in marked disturbance of function of the rectum, vagina, uterus and pelvic floor. Infection is likely to occur unless the parts are kept very clean, there being an unprotected point at which the germs make their attack.

Fissure of the anus sometimes complicates retro-displacement of the uterus. The pressure of the uterus on the bowel affects the circulation of blood through it. This also causes chronic constipation which is the important cause of fissure. The hard fecal matter passing over the delicate mucous membrane of the bowel results in injury to it, such as erosion or tears of the mucous tissue.

PAIN is the most constant symptom of anal fissure and varies with the severity of the case. In some the pain is constant, the patient with difficulty finding a position of ease. It is not confined to the anus but radiates to the lower limbs and lumbar region. In all cases the pain is necessarily worst during defecation.

The **diagnosis** is based on inspection, the fissure usually being low enough to be readily seen. In straining at stool blood is often discharged and the anal mucous membrane everted. On local vaginal examination, the body of the uterus is found to be in many cases, low down and back against the bowel.

The treatment consists of correction of the uterine displacement, ADJUSTING THE COCCYX and sacrum and relieving the constipation.

Proctitis and rectal abscesses often, like fissure, come from pressure of a retro-displaced uterus.

STRICTURE also comes from a similar cause. At first it is temporary, that is the uterus obstructs the bowel; later an irritation is set up, perhaps abscesses form, and the scar tissue resulting, produces a permanent stricture. The writer has seen temporary stricture complicate anteversion with a backward slipping of the uterus, thus forcing the cervix into the bowel, obliterating its lumen. Chronic constipation results in such cases.

Fistulae in ano complicate pelvic diseases in many instances. A fistula, meaning a pipe, is defined as "an abnormal, tube-like passage in the body" and when applied to the anus is an abnormal channel of communication between the bowel and the surface in the neighborhood of the anus. This channel is formed by the



Fig. 109—Showing different forms of rectal fistulae, (diagrammatic).

efforts of pus to escape from a pus cavity. The **PUS CAVITY** is the result of decomposed blood; that is, the blood dies from lack of movement and pus formation begins. This stagnation of the blood comes oftenest from pressure and in the female, from a retro-

displaced uterus pressing on the blood vessels of the tissues in and around the bowel.

There are THREE FORMS OF FISTULAE; the COMPLETE, in which there is a continuous sinus with an opening upon the mucous membrane and another externally; the BLIND INTERNAL, in which there is no external opening; and the BLIND EXTERNAL, in which there is no connection with the bowel. The form is determined by the amount and location of pus and the direction in which it burrows.

In some patients the symptoms are marked; in others, unimportant. PRURITUS with some inflammation at the orifice are common. The diagnosis is based on locating the opening from which pus is discharged. The extent can only be determined by the use of a probe. In blind internal fistulae, the pus is expelled per rectum and the opening located with difficulty.

The TREATMENT consists in restoring normal drainage of the diseased area, which is accomplished by replacing the uterus, thus removing the pressure on the blood vessels. This coupled with adjustment of the sacro-coccygeal and sacro-iliac articulations will cure without an operation. In rare cases an operation is advisable.

HEMORRHOIDS. On account of the frequency of hemorrhoids in the female and their association with female diseases, a short description will not be amiss at this place.

A HEMORRHOID is a vascular tumor produced by a chronic distention of the hemorrhoidal plexus of veins. This distention is due to vaso-motor paralysis or a mechanical obstruction of the vein. The latter is more common. This obstruction is usually a retro-displaced uterus, and in EVERY CASE of hemorrhoids in the female, I would EXAMINE THE UTERUS for a displacement or enlargement. A slipped innominate or chronic consti-

pation in which there is impaction of the bowel, frequently impedes the return flow and causes distention of these veins. During pregnancy they are increased in size. If enemata are used

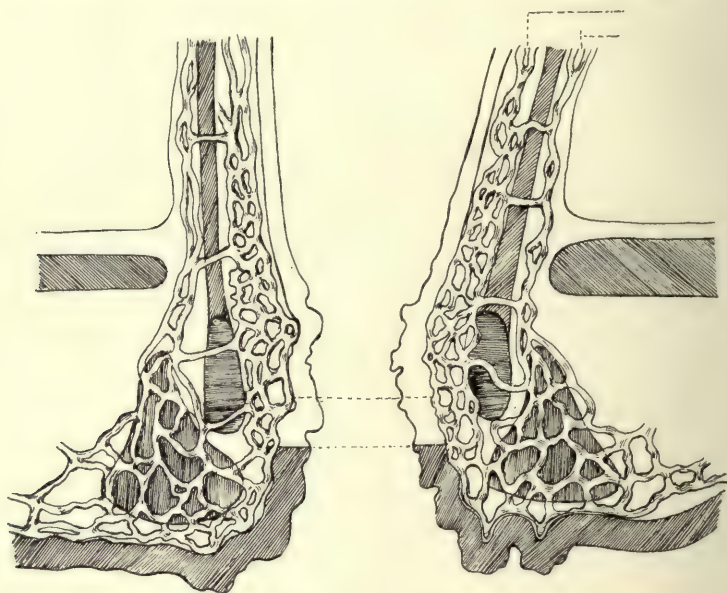


Fig. 110.—Showing veins in hemorrhoids, (diagrammatic).

very often while the bowel is impacted, as is the case in chronic constipation. the engorged blood vessels will be forced down and become enlarged, causing exquisite pain and agony until replaced and the blood pressure in these veins lowered.

Chronic liver troubles also tend to produce hemorrhoids.

In TREATING hemorrhoids, look for the obstruction, whether in the bowels, liver, uterus or whether it is due to muscular contractions, and remove it. A local rectal treatment is occasionally given whereby the mucous membrane of the bowel can be partially relieved of its stagnated blood. If the hemorrhoid is a VAS-

CULAR ONE and is external it SHOULD BE REPLACED AT ONCE. This can be accomplished by anointing the tumor then using gentle, but firm pressure against it until the sphincter relaxes. If replacement is impossible, hot applications or the use of a bread and milk poultice applied in the evening and remaining over night, make replacement possible on the following day, as well as partly relieving the pain. In replacing use plenty of lubricant, butter being one of the best. Keep the bowels free and prevent the patient from straining at stool or standing on her feet too long at a time. If pregnancy is the cause SHIFT THE POSITION of the gravid uterus and keep the patient quiet.

If the hemorrhoid remains external very long, ITS WALLS THICKEN and there is formed the chronic pile, which is fibrous in character, irreplaceable and produces little trouble.

CONSTIPATION is also a common complication of diseases of the female genitalia. There are several anatomical explanations for this. The nerve supply of the levator ani muscle, the rectum, vagina and uterus is very closely connected. On this account, a diseased condition of one is likely to affect the other. A general relaxation is the common condition. The mucous membrane and sphincters prolapse, the lumen of the bowel thus being partly closed and the mucous membrane loses its irritability, that is it is partly paralyzed. This may come from the pressure of a retro-displaced uterus. PRESSURE AT FIRST NUMBS, AFTERWARDS THE BOWEL PROLAPSES. This form of displacement may mechanically obstruct the canal, or, as mentioned before, an anteverted uterus with retro-position, thus forcing the cervix into the bowel, will produce a similar effect.

Diarrhea sometimes occurs at the menstrual period, it being the result of the increased congestion occurring at that time. The pressure of a displaced uterus on the bowel may at first cause diarrhea; later on, constipation.

THE MICROBIC ORIGIN of disease is a subject much discussed of late. It is quite a fad to attribute every disease to some micro-organism. In fact, it has become such a common thing that a great many people suffer from microphobia, being in constant fear of some dread microbe attacking them. **THE BODY IS PROTECTED AGAINST** all microbic invasion, if the skin and mucous membrane are in perfect working order. If the blood is circulating properly and the skin and mucous membranes are **intact**, no microbe can enter the system. Gonorrhea will not attack a healthy person, but let an alcoholic subject be exposed, or one that is weakened by excesses and it readily infects the subject. **Microbes**, then, are the **exciting causes** in the diseases in which they are found, while the predisposing cause is a weakness due to excesses or lesions which interfere with the proper circulation of the blood. Vaginal secretions are acid and effectually bar the entrance of bacteria. Mucous membranes unless they are broken are self cleansing and need no artificial antiseptics. However, if they are abraded an artificial antiseptic is required. On this account and also from the fact that the amniotic fluid and local discharges are antiseptic, injections are not advocated after delivery. A strong antiseptic injures the delicate mucous membrane and cells are destroyed by it, and this predisposes to the entrance of bacteria, since **dead tissue** is the best, in fact the only kind of nidus suitable for their propagation. I do not deny the fact that microbes are found in a great many diseases, but I do deny the theory that they are the cause of disease. They are the result of disease. Dr. Still once said to me that the "**BUZZARD WAS THE BIGGEST MICROBE THAT HE KNEW**". It feeds on dead flesh or tissues; so do the microbes, and so long as the tissues are alive the bacteria cannot affect them, but so soon as there is cell decay they, being ever present, pounce upon that part and there read-

ily propagate. The OSTEOPATHIC IDEA IS TO KEEP THE TISSUES HEALTHY, thus preventing cell decay. This is accomplished by keeping the blood moving, and if any one can control circulation it is the proficient osteopath.

CARE OF THE HANDS. Since the osteopath comes in close contact with the patient, the hands should at all times be kept scrupulously clean. In making a local examination see that the nails are pared and clean. If there is an abrasion on the examining finger use some other finger or defer the examination, if it is a doubtful case. The finger, if venereal disease or cancer is present, should be protected by glycerine or a heavy coat of vaseline.

Always thoroughly cleanse the hands before treating the next patient or infection may be transmitted. I have seen cases in which infection was carried by the physician on account of a lack of cleanliness. Again, it is a good plan to wash the hands in the presence of the patient since it leaves the impression that you are cleanly. After treating a case of venereal disease be careful not to carelessly introduce the finger into the eye, or the poison may become transmitted to the mucous membrane and produce ophthalmia.

RHEUMATISM. I have collected quite a number of cases of rheumatism which were traced to menstrual disorders as the cause. If the menses are retained it produces rheumatic symptoms, such as soreness in the muscles, swelling of the joints with the characteristic shifting of the pain from one joint to another.

In some there were sweats, this being due to retention of the substances which were not thrown off at the menstrual period, and the skin taking on the function of additional excretion. In others, the symptoms of rheumatoid arthritis are most pronounced, in fact, I regard this disease as due in most cases to retention of the menses.

It is rare to get this disease in the male and when it is found, the kidneys are usually diseased. I have cured quite a number of cases of initiatory rheumatoid arthritis by regulating the menstrual flow. If the case is treated before the structural changes take place in the joint, a cure is almost certain, but after the joint changes have occurred, a cure is improbable, even if the menstrual flow be regulated.

The **treatment** should be confined to the lumbar and sacral regions, while the joints should not be manipulated at all, since they are not at fault and should be left alone, or else they may be bruised by manipulation. Strong stimulation over the lumbar region increases the arterial circulation to the uterus and is very beneficial in menstrual disturbances. Bony lesions are also found as the fundamental cause of these rheumatoid affections.

LESIONS OF THE BONY PELVIS. The pelvic bones are subject to a variety of twists or partial displacements on account of the position of the pelvis, its function, and since it bears the brunt of jars and falls, especially if the patient suddenly steps into a depression. Some say that it is impossible for the innominate bones to be displaced. If so, why is there an increase in the length of one limb when the hip is not dislocated? Why is one innominate higher than the other? Why is one spine more prominent than the corresponding one? That they do take place is apparant to one who has studied the subject or to one that has cured disorders by correcting the displacement.

If a lesion does exist, then there will be, in most cases, an irregularity in the bony prominences, tenderness at the articulations or the length of the limbs will be affected. **TENDERNESS AT THE SYNCHONDROSES** is the **BEST INDICATION** in recent cases of a slight displacement of the innominates. Irregularity at the

symphysis is a good indication of a rotated ilium. SHORTENING OF THE LIMB INDICATES AN UPWARD slip or BACKWARD rotation of the ilium. The SACRUM is ALWAYS AFFECTED by slips of the innominate bones. A prominent sacrum, indicates a backward displacement of the lower part. A posterior lumbar region indicates that the upper part of the sacrum is posterior and the lower part is anterior.

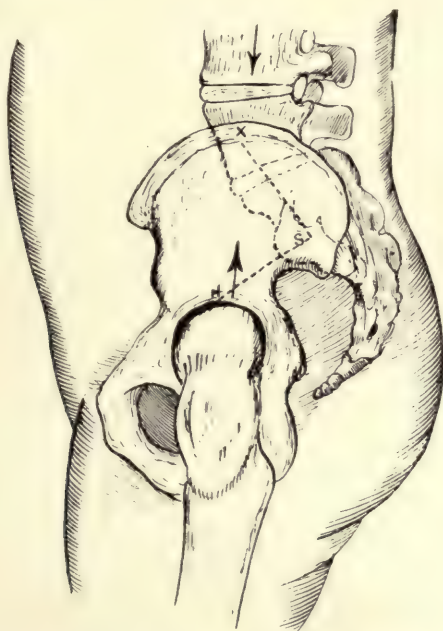


FIG. 111—Showing how the weight of the body is supported by the pelvis.

The MOST COMMON displacement of the innominate bones is UPWARD and BACKWARD. That of the sacrum, a forward rotation of the upper part and a backward rotation of the lower part. This can be more plainly seen by reference to Fig. 111, x, repre-

sents the fifth lumbar vertebra; s, the sacro-iliac synchondrosis; h, the acetabulum; the three points are not in a straight line, but form an angle, xsh. The force from below exerted at h, tends to force the pelvis directly upward, but the ilium is hinged at s, therefore, that part is moved with more difficulty than the symphysis pubis, and the force, instead of being directed upward, is partly directed backward. If the force acts on both hips at the same time, the pelvis is rotated upward and backward around the pivots. On this account, a person who is on the feet a great deal, or has had a hard fall directly on the feet, usually suffers from this kind of displacement. The points x, and h, are approximated, and the angle xsh, is lessened. The force from above, or the weight of the body, is supported at x, or the fifth lumbar. It, like the force from below, is transmitted through an angle, xsh and s, is a pivotal or fixed point around which the sacrum rotates. Therefore, a force acting from above tends to force x lower and by so doing the lower part of the sacrum is thrown upward and backward, since s, is the FULCRUM and xs, the LEVER. Each step or jar TENDS TO DRIVE THE SPINAL COLUMN lower, and if the muscular and ligamentous supports are weakened so as not to firmly fix the joints, a slipped sacrum follows.

The COCCYX IS A MOVABLE BONE. Since the lower part of the sacrum is thrown backward, the tip of the coccyx will be drawn forward by the muscles and ligaments attached to it, and form a sharp angle at the sacro-coccygeal articulation. This explains why a sharp angle is so frequently found at this joint, and why the coccyx so often appears to be anterior. A posterior curvature of the lumbar region may draw x backward, thus increasing the angle xsh. In this case the upper part of the sacrum will be drawn backward and the lower part forward. Yet the fifth lumbar may become posterior without drawing the sacrum

with it, but it could not be thrown anterior without carrying the top part of the sacrum forward, on account of the arrangement of the articular processes. These lesions derange the pelvic circulation, change the position and shape of the buttocks, and alter the length of the limbs. The most important effect is the direct interference with the pelvic circulation, producing menstrual disorders, tumors and leucorrhea.

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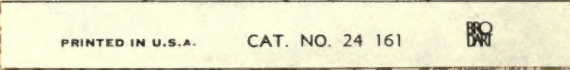
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